

FOUR-FOOTED
BEASTS
AND SERPENTS
TOPSEL





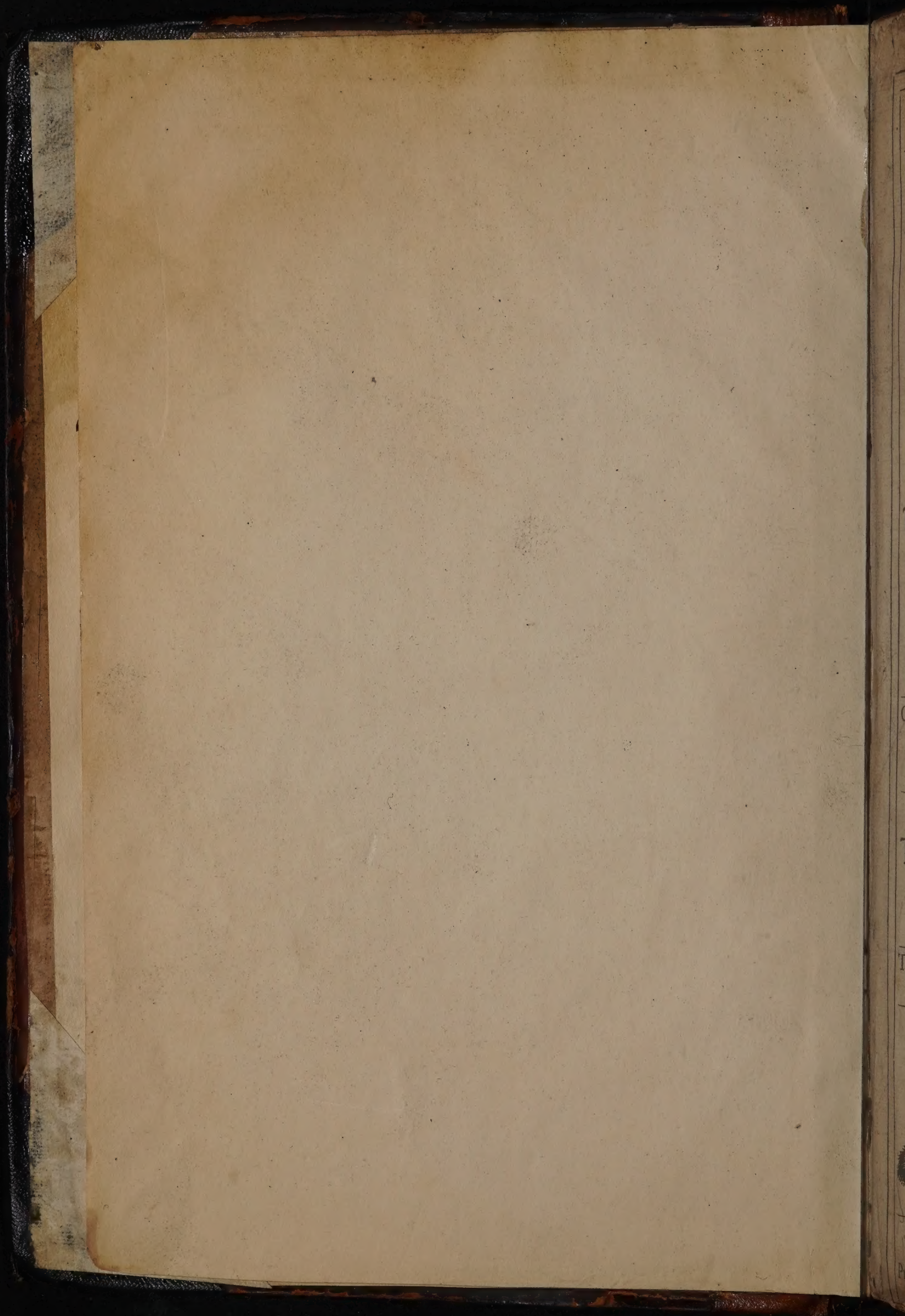


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THE
HISTO
OF
Four-footed beasts
AND
SERPENTS:

Describing at Large
Their True and Lively *Figure*, their several *Names*, *Conditions*,
Kinds, *Virtues* (both Natural and Medicinal) *Countries* of their *Breed*,
their *Love* and *Hatred* to Mankind, and the wonderful work of
God in their *Creation*, *Preservation*, and *Destruction*.

Interwoven with curious variety of Historical Narrations out of Scriptures,
Fathers, Philosophers, Physicians, and Poets: Illustrated with divers Hieroglyphicks
and Emblems, &c. both pleasant and profitable for Students in all Faculties and Professions.

Collected out of the Writings of CONRADUS GESNER
and other Authors,
By EDWARD TOPSEL.

Whereunto is now Added,
The Theater of Insects; or, Lesser living Creatures:
As Bees, Flies, Caterpillars, Spiders, Worms, &c. A most
Elaborate Work: By T. MUFFET, Dr. of Physick.

The whole Revised, Corrected, and Inlarged with the Addition of Two
useful *Physical Tables*, by J. R. M.D.



LONDON:

Printed by E. Cotes, for G. Sambridge at the Bible on Ludgate-hill, T. Williams at
the Bible in Little-Britain, and T. Johnson, at the Key in Pauls Church-yard. MDCCLVII.

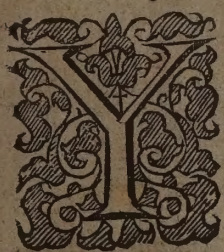


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TO THE
RIGHT HONOURABLE
THE
Lord Marquess
OF
DORCHESTER,
Earl of KINGSTONE,
Vicount NEW ARKE, &c.

My very Noble LORD,



Our Lordship well knows that Honour attends upon Virtue, as the shadow doth upon the substance; there is such a magnetick force in Goodness, that it draws the hearts of men after it. The world observes that Your Honour is a great Lover of the works of Learned Writers, which is an infallible argument of an excellent mind residing in You. Wherefore I here humbly offer unto Your Noble Patronage the most Famous and Incomparable History of CONRADUS GESNER, a great Philosopher and Physitian, who by his vast expences, and indefatigable pains, Collected and Digested into two Volumes, what ever he found scattered here and there in almost infinite Authors, concerning Fourfooted-Beasts and Serpents, adding also what he could possibly attain to by his own experience, and correspondence held with other famous Scholars every where. After him Mr. Edward Topsel a Learned Divine, Revised and Augmented the same History; as it is not altogether so difficult to add something to what is first begun, and to build upon such a foundation which was before so artificially laid. He hath deserved well of our English Nation in so doing; and the more, that he doth with so much modesty attribute the praise of the whole work to the Master-workman to whom it was chiefly due. The same Gesner, after Mr. Edward Wotton had begun, undertook to compose the History of Insects; which as it is a business of more curiosity and difficulty to write exactly of; so all things considered, they serve as much to set forth the Wisdom and Power of God as the greatest Creatures he hath made, and are as beneficial to Mankind, not only for dainty Food, but for the many Physical uses that arise from them. John Baptist fed upon Locusts and

The Epistle Dedicatory.

wilde Honey, and we read that our Saviour eat a piece of a Honey comb. These little Insects are not so contemptible as the World generally thinks they are, for they can do as much by their multitudes, as the other can by their magnitude, when as one Hornet shall be able suddenly to kill a Horse, and Gnats, Ants and Wasps to bid resistance to Bears, Lions and Elephants, and to depopulate whole Countries. The Frogs, Locusts, and Lice, were none of the least Judgements in the Land of Egypt. Mr. Thomas Pennius, another Physitian, lighting his Candle by the former lights, succeeded them in this great undertaking. But all these vigilant and painful Men never could bring it to perfection, being every one of them prevented by death. And indeed, things of deep search, and high concernment, are very seldom begun and ended by the same persons. Hippocrates gives the reason for it, that Art is long, Life short, Experience difficult, occasion precipitate, Judgement uncertain. I may say farther, which he also comprehends in the close of that Aphorism, that all must perform their severall offices: which is not often done, but ingenious men frequently labour under the want of means, and find small encouragement to proceed in their great designs, especially in this latter age of the World. Gesner makes a sad complaint in behalf of himself, and Topsel doth the like, and so do all the rest who spent their Estates, and wasted their Spirits for the common good. Which is sufficient proof to convince many rich men of blindness and ingratitude, and confirms that truth the Poet speaks;

Haud facile emerguunt, quorum virtutibus obstat
Res angusta domi —————

Good and well meaning men cannot proceed,
Virtue is crusht by want, oppressd by need.

After the death of the forementioned four Worthies of their times, Mr. Thomas Muffet a noted English Physitian undertook the same task, and compleated it; whose Encomium is excellently well penned by the late Honourable Doctor of Physick Sir Theodore Mayerne, in his Epistle to Doctor William Paddy of famous memory, premised to this Book; wherein to his own immortal praise, he hath so Anatomically dissected many of the chiefeest Insects, even to admiration, that he hath let the World understand by it, that he was a deep Philosopher, and a most accurate searcher into the secrets of Nature, and worthy of those places of Honour he enjoyed in Great Princes Courts. This large History is not, nor could possibly be the production of one Age; both able Divines, and Physitians contributed what they had, and employed their Talents, and greatest studies, for many years in their severall generations, to bring it forth; whereby it may appear how necessary this Work is for the souls and bodies of Men, to teach them to know the Wisdom and Omnipotence of God in the Creation of these Creatures, and Goodness to bestow them upon Man, both for profit and delight; and though many of them be Dangerous and Venomous, yet they were not so when God first made them. For the Wiseman saith, That God made not death, neither takes he pleasure in the destruction of the living, for he created all things that they might have their being, and the Generations of the World were healthful, and there was no poison of destruction in them, no Kingdom of death upon the earth, but ungodly men

The Epistle Dedicatory.

men by their wicked works and words, called it to them. This Book will plentifully furnish us with Remedies against most of these inconveniences, which is no small occasion to put us in mind how much we stand obliged to the memories of the learned Authours of it; who spared no cost nor pains that they might prove beneficial to the then present, and to succeeding Ages. And the same reason is very strong in behalf of those who now have been at this vast charge to Reprint and to perfect the same, that it never should be lost by time or casualties, which consume all things; and to supply the whole Work with a double Physical Index, to ease the Readers labour, that he might not wander up and down, and lose himself in this great wilderness of Beasts and Insects, searching after that he stands in need of, but may in an instant be provided with all those known remedies these several Creatures can afford him. Should such a Fabrique as this decay and come to ruine, the damage were unspeakable and irreparable; the Mausolean Sepulchre, the Colossus of Rhodes, or the Pyramids of Egypt might sooner be renewed and built again. Wherefore Men are bound in conscience, by the Laws of God, of Nature, and of Nations, to consider of the great Expence and Pains now taken in it, and to promote the Work to the best advantage of the present undertakers for the publick good, who have now brought it to this perfection, that they may say of it, what Ovid did of his Metamorphosis;

Jamque opus exegi, quod nec Jovis ira, nec ignis,
Nec poterit ferrum, nec edax abolere vetustas.

The Work is ended, which can envies fume,
Nor Sword, nor Fire, nor wasting time consume.

Never was there so compleate a History of the Creatures as this is since the daies of Solomon, who writ the story of Beasts and Creeping things: and indeed it requires a Kingly Treasure and Understanding to accomplish it. And Petrus Gillius writes, that in former Ages, all the Histories of Creatures were compiled by Kings, or Dedicated to them; who are best able to bear the charge of it, and most fit be honoured with it. What would the World now give for that Book of Solomons, which by the negligence of ungrateful men and length of time is utterly lost? How highly then ought we to esteem of this History of Gesner and Muffet, which is inferiour to none but that? For what Aristotle set forth upon this subject at the appointment of Alexander the Great, and for which he received from him 400 Talents as a Kingly reward, is all comprehended in this, with the addition of many hundreds more that have travelled in the same way. Orpheus, whom the Poets so much magnifie for drawing the Beasts after him, could do no more with all his melodious harmony, then these famous and ingenious Men have done. And because I cannot but think, what the Poets fancied concerning him, was but an Hieroglyphical representation (according to the dim light they had) of all the Creatures coming to Noah into the Ark, this History seems to me to be like another Ark of Noah, wherein the several kinds of beasts are once again met together, for their better preservation in the understanding of Man; & however there were multitudes of Birds in the Ark which are not here (it may be because Aldrovandus and others have

The Epistle Dedicatory.

written largely to that purpose) yet here are abundance of Insects that never were in Noahs Ark, and whereof we never had, or we can find extant, any compleate History untill this was made; which is like to another Paradise, where the Beasts, as they were brought to Adam, are again described by their Natures, and named in most Languages; which serves to make some reparation for the great loss of that excellent knowledge of the Creature, which our first Parents brought upon their posterity when they fell from God. We read in the 10th. of the Acts, that when a vessel was let down from heaven, wherein there were all manner of Fourfooted-Beasts and Creeping things, that St. Peter wondered at it: who then can choose but admire to see so many living Creatures that Nature hath divided and scattered in Woods, Mountains and Vallies, over the face of the whole earth, to come all together to a general muster, and to act their several parts in order upon the same Theater? I confess there are many Men so barbarous, that they make no account of this kind of learning, but think all charge and pains fruitless that is imployed this way; shewing themselves herein more unreasonable and brutish then the irrational Beasts. For next unto Man are these Creatures rankt in dignity, and they were ordained by God to live upon the same earth, and to be Fellow-commoners with Man; having all the Plants and Vegetables appointed them for their food as well as Man had; and have obtained one priviledge beyond us, in that they were created before Man was; and ever since they are obnoxious to the same casualties, and have the same coming into the World, and going out that we have; For that which befalls the Sons of Men befalls Beasts, even one thing befalls them both, as the one dyeth, so dyeth the other; so that Man hath no preeminence above the Beasts. All go unto one place, all are of the dust, and all return to dust again: Eccles. 3. 19, 20. And the Prophet David doubts not to compare Man being in honour, and having no understanding, unto the Beasts that perish. As for Minerals, they are yet another degree below Beasts, all the Gold, Jewels, and Diamonds in the World, are not comparable to any one of the meanest Creatures that hath within it the breath of life. God hath bountifully bestowed them all on Man, whom he hath advanced above them all, for food, and raiment, and other necessary uses; also for his pleasure and recreation: and so long as we use them with Sobriety and Thankfulness, we shall finde an infinite benefit and advantage by them; but when we prove ungratefull unto God, they become so many Instruments of his vengeance against sinners, to make up that fourfold Judgement, with the Sword, Famine, and Pestilence, the Prophet threatens the Jews with. I fear to be tedious, therefore I beseech Your Honour to accept this History in good part from him who humbly prayeth for Your Lordships temporal and eternal happiness, and who is

Your Honours most affectionately

humble Servant

JOHN ROVLAND.


 To the Reverend and Right Worshipful
 RICHARD NEILE, D. of Divinity,
 Dean of Westminster, Master of the Savoy,
 and Clerk of the King his most Excellent Majesties Closet;
 all felicity Temporal, Spiritual, and Eternal.



HE Library of *English* Books, and Catalogue of Writers, (Right Worthy and Learned DEAN, my most respected PATRON) have grown to the height, not only of a just number, but almost innumerable: and no marvel, for God himself hath in all ages preferred Learning in the next place to Life; for as Life is the Ministerial Governor and Mover in this World, so is Learning the Ministerial Governor and Mover in Life: As an Interpreter in a strange Countrey is necessary for a Traveller that is ignorant of Languages (or else he should perish,) so is Knowledge and Learning to us poor Pilgrims in this our Perigrination, out of Paradise unto Paradise; whereby confused BABEL'S tongues are again reduced to their significant Dialects, not in the builders of BABEL to further and finish an earthly Tower, but in the builders of JERUSALEM, to bring them all to their own Countrey which they seek, and to the desired rest of souls. *Literæ obstetrices artium, quarum beneficio ab interitu vindicantur.* As Life is different and divers, according to the Spirit wherein it is seated, and by which it is nourished as with a current; so also is Learning, according to the taste, use, and practise of Rules, Canons, and Authors, from whom as from a Fountain it taketh both beginning and increase: even as the Spirit of a Serpent is much quicker then the Spirit of an Ox; and the Learning of Aristotle and Pliny more lively and lightsome then the knowledge of other obscure Philosophers, unworthy to be named, which either through Envy or Non-proficiencie durst never write. *Si cum hac exceptione detur sapientia, ut illam inclusam teneam, nec enuntiem, rejiciam. Nullius boni sine socio jucunda est possessio.* And therefore I say with Petrus Blesensis: *Scientiarum generosa possessio in plures dispersa, non perditur, & distributa per partes, minorationis detrimentum non sentit: sed eo diuturnius perpetuata senescit, quo publicata fecundius se diffundit.*

The greatest men stored with all helps of Learning, Nature and Fortune, were the first Writers, who as they did excell other men in Possessions and Worldly dignity, so they manifested their Virtues and Worth in the edition of excellent parts of knowledge, either for the delight or profit of the World, according to the Poets profession:

*Aut prodesse volunt, aut delectare Poeta,
 Aut simul & jucunda & idonea dicere vita.
 Omne tulit punctum, qui miscuit utile dulci,
 Lectorem delectando, pariterque monendo.*

Yet now of late daies this custom hath been almost discontinued to the infinite prejudice of sacred inviolable Learning and Science, for *Turpis saepe fama datur minoribus*, (as Ausonius wrote in his time) for indeed the reason is pregnant:

The Epistle Dedicatory.

*Haud facile emrgunt, quorum virtutibus obstat
Res angusta domi.*

But yet the great Rector and Chancellor of all the Academies in the World *Iesus Christ*, in whom are hid all the treasures of wisdom and knowledge, the Master of that Colledge wherein he was but a Servant or Steward, that was learned in all the learning of the Egyptians, (I mean *Moses*) the first writer, the first Author, the first commender of knowledge, and the first ordainer of a lawful Common-wealth, and Ruler of Church and State, hath not left our age without some monuments of great Princes, Earls, Lords, Knights, for the ornament and honour of Learning, who for general and particular causes and benefits have added their Names to the society of Writers, and divulged their works in Print, which are likely to be remembred till the Worlds end. Such are our most Temperate, Just, Wise, and Learned King and Sovereign. The Right Noble, and Honourable Earl of *Surry*, long ago departed out of this earthly *Horizon*. The now living Earls of *Dorset*, *Northampton*, *Salisbury*; and many Knights, *Sir Philip Sidney*, *Sir George Moore*, *Sir Richard Bartlet*, *Sir Francis Hastings*, and others. But of *Aarons*, and such as sit at the Helme of the Church, or are worthily advanced for their knowledge in Learning and State, I mean both Bishops and Doctors, almost innumerable, of all whom I can say no more, if I were worthy to say any thing, then apply unto them particularly that which was said of one of the greatest Scholars and Divines that ever *England* had:

Bish. Juel.

*Dic obsecro sancta
Posteritas, nec enim mihi fas est dicere: tantum
De tantis tacitum, aut tantos audire juvabit.*

Then why should I presume, being every way the least and meanest of all other, uow the third time to publish any part of my conceived studies for the age present and succeeding, and so to have my Name inrolled amongst the benefactors and Authors of Learning?

*Non omnia grandior aetas
Qua fugiamus habet; seris venit usus ab annis.*

Alas Sir, I have never abounded in any thing, except want and labour, and I thank God that one of these hath been prepared to feed the other, therefore I will not stand upon any mans objections, who like Horses as it is in the Fable being led empty, well fed, and without burden, do scorn the laden Ass, adding misery to his load, till his back was broke, and then was all laid upon the pampred disdainful Horse: even so these proud displeasing spirits are eased by the labors of us that bear the burthens, and if they content not themselves with ease, but will also sit in the seat of the scornful, let them remember, that when our backs be broak, they must take up the carriage. But pardon me (I beseech you) if by way of Preface I open my heart unto your Worship, who is better able then ten thousand of the *Momus's*, and more charitably generous in receiving such gifts with the right hand (as these are) although they were given with the left; for seeing I have chosen you the Patron of this Work, I will briefly declare and open my mind unto you concerning the whole Volum, sparing any other praises of your demerits then those which by *Martial* are ascribed to *Regulus*, which I will without flattery or fear of the envious thus apply unto you:

*Cum sit Sophia par fama & cura deorum,
Ingenio pretas nec minor ipsa tuo.
Ignorat meritis dare munera, qui tibi librum
Et qui maratur [Neiile] Thura dari.* [SSS. Trinitatis]

So then leaving these perorations, I will endeavor to prove unto you that this Work which I now publish and divulge unto the world, under the Patronage of your Name, is Divine, and necessary for all men to know; True, and therefore without slander or suspicious scandal

The Epistle Dedicatory.

scandall to be received; and that no man ought rather to publish this unto the World, then a Divine or Preacher. For the first, that the knowledge of Beasts, like as the knowledge of the other creatures and works of God, is Divine, I see no cause why any man should doubt thereof, seeing that at the first they were created and brought to man as we may read *Gen. 1. 24, 25.* and all by the Lord himself, so that their Life and Creation is Divine in respect of their Maker; their naming Divine, in respect that *Adam* out of the plenty of his own divine wisdom, gave them their several appellations, as it were out of a fountain of Prophecie, foreshewing the nature of every kind in one elegant and significant denomination, which to the great losse of all his children was taken away, lest and confounded at *Babel*. When I affirm that the knowledge of Beasts is Divine, I do mean no other then the right and perfect description of their Names, Figures, and Natures, and this is in the Creator himself most Divine, and therefore such as is the Fountain, such are the streams issuing from the same into the minds of men. Now it is most clear in *Genesis* how the Holy Ghost remembreth the creation of all living creatures, and the Fourfooted next before the creation of Man, as though they alone were appointed the Ushers, going immediately before the race of Men. And therefore all the Divines observe both in the *Hebrew*, in the *Greek* and *Latin*, that they were created of three several sorts or kinds. The first *Fumentum*, as Oxen, Horse, Asses and such like, *Quia hominum jumenta*. The second, *Reptile*, *quia hominum medicina*. The third, *Bestia*, *i. à vastando*, for that they were wilde and depopulators of other their associates, rising also against Man, after that by his fall he had lost his first image and integrity. Now were it not a knowledge Divine, why should the holy Scriptures relate it, and divide the kinds? Yea, why should all holy Men take examples from the natures of Beast, Birds, &c. and apply them to heavenly things, except by the ordinance of God they were both allowed and commanded so to do: and therefore in admiration of them the Prophet *David* cryeth out, *Quam magnifica sunt opera tua Domine! omnia in sapientia fecisti*. The old *Manichees* among other blasphemies accused the creation of hurtful, venomous, ravening, and destroying Beasts, affirming them to be made by an evil God, and also they acculed the creation of Mice and other unprofitable creatures, because their dulness was no kinder to the Lord, but like cruel and covetous Misers, made no account of those Beasts, which brought not profit to their purse. You know (Right Learned Dean) how that grave Father answered that calumny, first affirming that the same thing which seemed idle to Men, was profitable to God; and the same that appeared ugly to them, was beautiful to him, *Qui omnibus utitur ad gubernationem universi*. He therefore wisely compareth a fool that knows not the use of the creatures in this world, to one ignorant that cometh into the workhouse of a cunning Man, viewing a number of strange tools, and having no cunning but in an Axe or a Rake, thinketh, that all those rare inventions of a wise workman are idle toies: and whilst thus he thinketh, wandring to and fro, not looking to his feet, suddenly falleth into some furnace in the same Work-house, or chance to take up some sharp tool whereby he is wounded, then he also thinketh that the same are hurtful and dangerous. *Quorum tamen usum quia novit artifex, insipientiam ejus irridet, & verba inepta non curans officinam suam constantiter exercet*. But we that are ashamed to deny the use of instruments in the shops of rare Artisans, but rather admire their invention, yet are not afraid to condemn in Gods storehouse sundry of his creatures, which are rare inventions, although through folly we be wounded or harmed by them, and therefore he concludeth that all Beasts are either *utilia*, and against them we dare not speak; or *perniciosa*, whereby we are terrified that we should not love this perilous life; or else they are *superflua*, which to affirm were most ridiculous: for as in a great house all things are not for use, but some for ornament, so is it in this World, the interiour Palace of God. *Thus far Austin.*

Therefore I will conclude this first part, that not only the knowledge of the profitable creature is divine, and was first of all taught by God, but also of the hurtful: For a wise Man, saith *Solomon*, seeth the Plague (by the revelation of God) and hideth himself from it. And *John Baptist*, *Quis vos docuit ab ira ventura fugere?* These things have I principally laboured in this Treatise, to shew unto Men what Beasts are, their friends, and what their enemies, which to trust, and which avoid, in which to find nourishment, and which to shun as poison. Another thing that perswadeth me in the necessary use of this History, that it was divine, was the preservation of all creatures living, which are ingendred by copulation (except Fishes) in the Ark of *Noah*, unto whom it pleased the Creator at that time to infuse an instinct, and bring them home to man as to a fold: surely it was for that a man

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The Epistle Dedicatory.

might gain out of them much Divine knowledge, such as is imprinted in them by nature, as a type or spark of that great wisdom whereby they were created. In Mice and Serpents a foreknowledge of things to come, in the Ant and Pismire a providence against old age: in the Bear the love of young; in the Lion his stately pace; in the Cock and Sheep, change of weather; as S. Basil in his *Hexameron*, *Etiam in Brutis quidem futuri sensus est, ut nos presenti vite non addicti simus, sed de futuro seculo omne studium habemus.*

For this cause there were of beasts in holy Scripture three holy uses, one for Sacrifice, another in Vision, and a third for Reproof and Instruction.

In Sacrifices were the clean beasts, which Men were bound first to know, and then to offer; for it is unreasonable that those things should be sacred at the Lords altar, which are refused worthily at private mens Tables. Now although we have no use of Sacrificing of Beasts, *Nam sicut bruta pro peccatis immolabantur, ita jam vitia pro corporibus*; yet we have use of clean Beasts for food and nourishment, and therefore for the enriching of the minds and tables of men, it is necessary to know not only the liberty that we have to eat, but also the quality and nutriment of the Beast we eat, not for any Religion, but for health and corporal necessity. This point is also opened in this story, and the other of Sacrifice, wherein I have not omitted to speak of the Divine use of every Beast, both among the *Jews* and among the prophane *Gentiles*.

Now for the second holy use of Beasts in Visions, the Prophet *Daniels* Visions, and *Ezekiels*, and S. *Johns* in the *Revelation* do testifie of them, whereby the most Divines have observed how great Princes and Kingdoms after they have shaken off the practise of Justice and Piety, turn Tyrants and ravening Beasts. For so Man being in honour understandeth not, but becometh like the Beasts that perish, and so as *Dionysius* saith by Visions of Beasts, *Infima reducuntur per media in suprema*. Now there were, as S. *Augustine* saith, three kinds of visions, *Sensibiles, intellectuales, & imaginaria*: the first were most pregnant, because to the understanding and conceiving, a Man never lost his senses, and therefore God did suddenly create savage Beasts both of natural and extraordinary shapes, whereby he shewed to his servants the Prophets, the ruine or uprising of beastly States and Kingdoms. And not only thus, but also in heaven (as St. *John* saith) there are 4 Beasts full of eyes before the throne of God; both which must needs magnifie the knowledge of these *Quadrupedes*; for seeing God hath used them as Sacraments or Mysteries to contain his will, (not only in monstrous treble-headed, or seven-horned shapes, but also) in pure, ordinary, natural limbs and members; how shall we be able to ghesse at the meaning in the secret, that do not understand the revealed? And what use can we make of the invisible part of that Sacrament, where we know not the meaning of the visible? Doth the Lord compare the Devil to a Lion; evill Judges to Bears; false Prophets to Wolves; secret and crafty persecutois to Foxes; open enemies in hostility to wilde Boars; Heretickes and false Preachers to Scorpions; good men to the Fowles of heaven, and Martyrs to Sheep, and yet we have no knowledge of the natures of Lions, Wolves, Bears, Foxes, wilde Boars, or Scorpions? Surely when *Solomon* saith to the sluggard, Go to the Pismire, he willeth him to learn the nature of the Pismire, and then according thereto reform his manners: And so all the World are bid to learn the natures of all Beasts, for there is alway something to be learned in them, according to this saying of St. Basil, *A deo nihil non providum in natura rebus est, neque quicquam pertinentis ad se cura expers, & si ipsas animalium partes consideraveris, invenies quod inique superfluum quid conditor opposuit, neque necessaria detraxit*. Then it being clear that every Beast is a natural Vision, which we ought to see and understand, for the more clear apprehension of the invisible Majesty of God, I will conclude that I have not omitted this part of the use of Beasts, but have collected, expressed, and declared, what the Writers of all ages have herein observed.

Now the third and last holy use that is made of Beasts in Scripture, is for Reproof and Instruction; so the Lord in *Job* 38, & 39. mentioneth the Lion, the Raven, the wilde Goats, the Hinds, the Hind-Calves, the wilde Asses, the Unicorn, the Ostrich, the Stork, the pissant Horse, the Hawke, the Eagle, the Vulture, the Whale, and the Dragon, that is, the Fowles, Fishes, Serpents, and Four-footed Beasts: All which he reckoneth as known things to *Job*, and discourseth of as strange things in their natures as any we have inferred for truth in our History, as may appear to any man whatsoever, that will look Audiously into them.

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The Epistle Dedicatory.

Shall I add hereunto how *Moses*, and all the Prophets, *St. John Baptist*, our most blessed Saviour, *St. Paul*, and all the Writers since his time (both ancient and later) have made profession of this part of Divinity; so that he was an unskilful Divine and not apt to teach, which could not at his fingers speak of these things: for (saith our Saviour) *If I tell you earthly things and ye believe not, how shall ye believe when I tell you heavenly things?*

Solomon, as it is witnessed in holy Scripture, wrote of Plants, of Birds, of Fishes, and Beasts, and even then when he stood in good favour with God, therefore it is an exercise of the highest Wisdom to travel in, and the Noblest minds to study in: for in it as I will shew you (with your good patience, for I have no other Preface) there is both the knowledge of God and Man. If any man object, *Multa multi de musca, de apicula, de vermiculo, pauca de Deo*: I will answer with the words of *Theodorus Gaza*, *Per multa enim de Deo is tractat, qui doctrina rerum conditarum exquisitissima, conditorem ipsum declarat, neque musca, neque vermiculus omittendus est ubi de mira solertia agitur*. Whereunto *St. Austin* agreeth when he saith, *Majestatem divinam aque in formica membris atque magno jamento tranante fluvium*. And for the knowledge of man, many and most excellent rules for publick and private affaires, both for preserving a good conscience, and avoiding an evill danger, are gathered from Beasts: It were too long to run over all, let me (I beseech you) be bold to reckon a few which descend from Nature our common parent, and therefore are neither strained, counterfeit, inconstant, or deceitful; but free, full of power to perswade, true, having the seal of the Highest for their evidence; constant and never altered in any age; faithful, such as have been tryed at fire and touch-stone.

Were not this a good perswasion against murder, to see all Beasts so to maintain their natures, that they kill not their own kind? Who is so unnatural and unthankful to his Parents, but by reading how the young *Storkes* and *Wood-peckers* do in their parents old age feed and nourish them, will not repent, amend his folly, and be more natural? What man is so void of compassion, that hearing the bounty of the *Bone-breaker Bird* to the young *Eagles*, will not become more liberal? Where is there such a sluggard and drone, that considereth the labours, pains, and travels of the *Emmet*, little *Bee*, *Field-mouse*, *Squirrel*, and such other that will not learn for shame to be more industrious, and set his fingers to work? Why should any man living fall to do evill against his Conscience, or at the temptation of the Devill, seeing a *Lion* will never yeeld? *Mori scit, vinci nescit*; and seeing the little *Wren* doth fight with an *Eagle*, contending for Soveraignty? Would it not make all men to reverence a good King set over them by God, seeing the *Bees* seek out their King if he lose himself, and by a most sagacious smelling sense, never cease till he be found out, and then bear him upon their bodies if he be not able to flie, but if he die they all forsake him? And what King is not invited to clemency, and dehorted from tyranny, seeing the King of *Bees* hath a sting, but never useth the same?

How great is the love & faithfulness of *Dogs*, the meekness of *Elephants*, the modesty or shamefastness of the adulterous *Lioness*, the neatness and politure of the *Cat* and *Peacock*, the justice of the *Bee*, which gathereth from all flowers that which serveth their turn, and yet destroyeth not the flower; the care of the *Nightingale* to make her voice pleasant, the chastity of a *Turtle*, the canonical voice and watchfulness of a *Cock*, and to conclude, the utility of a *Sheep*? All these and ten thousand more I could recite, to shew what the knowledge of the nature of brutish creatures doth work or teach the minds of men; but I will conclude this part with the words of *S. Jerom* against *Jovinian*. *Ad Herodem dicitur propter malitiam, Ite & dicite vulpi huic, Luk. 13. ad Scribas & Phariseos gentimina viperarum, Mat. 23. ad libidinosos equi hinmentes in proximorum feminas, Jer. 5. de voluptuoso, Nolite mittere margaritas vestras ante porcos. De impudentibus, neque sanctum date canibus, Mat. 7. de infidelibus, Ephesi cum bestiis pugnavi in similitudine hominum*. And thus far *S. Jerom*. Whereby we may boldly aver by way of induction, that wherein the knowledge of God, the knowledge of Man, the precepts of Virtue, the means to avoid evill are to be learned, that Science is Divine and ought of all men to be inquired and sought after: and such have I manifested in this History following.

Now again the necessity of this History is to be preferred before the Chronickes and Records of all ages made by Men, because the events and accidents of the time past, are peradventure such things as shall never again come in use; but this sheweth that Chronicle which was made by God himself, every living Beast being a word, every Kind
being

The Epistle Dedicatory.

being a sentence, and all of them together a large History, containing admirable knowledge and learning, which was, which is, which shall continue, (if not for ever) yet to the Worlds end.

*Et patris, & nostras, nonumque prematur in annum,
Membranis intus positis delere licebit
Quod non edideris*

The second thing in this discourse which I have promised to affirm, is the truth of the History of Creatures, for the mark of a good Writer is to follow truth and not deceivable Fables. And in this kind I have passed the straightest passage, because the relation of most things in this Book are taken out of Heathen writers, such as peradventure are many times superstitiously credulous, and have added of their own very many rash inventions, without reason, authority, or probability, as if they had been hired to sell such Fables: For, *Non bene conducti vendunt perjuria testes*. I would not have the Reader of these Histories to imagine that I have inserted or related all that ever is said of these Beasts, but only so much as is said by many, *For in the mouth of two or three witnesses standeth every word*: and if at any time I have set down a single Testimony, it was because the matter was clear and needeth not farther probation, or else I have laid it upon the Author with special words, not giving the Reader any warrant from me to believe it.

Besides, I have taken regard to imitate the best Writers, which was easie for me to do, because *Gesner* relateth every mans opinion (like a common place or *Dictionary*, as he professeth;) and if at any time he seemed obscure, I turned to the Books which I had at hand to ghesse their meaning, putting in that which he had left out of many good Authors, and leaving out many magical devises. Now although I have used no small diligence or care in collecting those things which were most essential to every Beast, most true without exception, and most evident by the Testimony of many good Authors; yet I have delivered in this Treatise many strange and rare things, not as Fictions, but Miracles of nature, for wisemen to behold and observe to their singular comfort, if they love the power, glory, and praise of their maker, not withholding their consent to the things expressed, because they intreat of living things made by God himself. *Si ergo querimus quis fecerit, Deus est: Si per quod, dixit, Fiat, & facta sunt: Si quare fiat, quia bonus est. Nec enim auctor est excellentior Deo, nec ars efficacior Dei verbo, nec causa melior, quam ut bonum crearetur a Deo bono*; and this *Plato* said was the only cause of the worlds creation, *ut a Deo bono opera bona fierent*.

Now I do in a sort challenge a consent unto the probability of these things to wise and learned men, although no belief. For *Fides*, is *credere invisibilia*; but *consensus* is a cleaving or yeelding to a relation untill the manifestation of another truth; and when any man shall justly reprove any thing I have written for false and erroneous, I will not stick to release the Readers consent, but make satisfact on for usurpation. But for the rude and vulgar sort (who being utterly ignorant of the operation of Learning, do presently condemn all strange things which are not ingraven in the palms of their own hands, or evident in their own herds and flocks) I care not, for my ears have heard some of them speak against the History of *Sampson*, where he tied fire-brands to the tails of Foxes, and many of them against the miracles of Christ. I may remember you (*R.W.*) of a Countrey tale of an old Masse-Priest in the daies of *Henry* the eight, who reading in *English* after the translation of the Bible, the miracles of the five Loaves and two Fishes, and when he came to the verse that reckoneth the number of the ghests or eaters of the banquet, he paused a little, and at last said, they were about five hundred: The Clerk, that was a little wiser, whispered into the Priests ears that it was *five thousand*, but the Priest turned back and replied with indignation, *Hold your peace sirrah, we shall never make them believe they were five hundred*.

Such Priests, such People, such persons I shall draw upon my back, and although I do not challenge a power of not erring, yet because I speak of the power of God, that is unlimitable, I will be bold to aver that for truth in the Book of Creatures (although first observed by Heathen men) which is not contrary to the book of Scriptures.

Lastly, that it is the proper office of a Preacher or Divine to set forth these works of God, I think no wiseman will make question, for so did *Moses*, and *David*, and *Solomon*,
and

The Epistle Dedicatory.

and *Christ*, and *S. Paul*, and *S. John*, and *S. Ireney*, *S. Gregory*, *S. Basil*, *S. Austin*, *S. Jerom*, *S. Bernard* in his enarrations or Sermons upon the Canticles, and of latter daies *Isidorus*, The Monks of *Messuen*, *Geminianus*, and to conclude, that ornament of our time *Jeronymus Zanchius*. For how shall we be able to speak the whole Counsel of God unto his people, if we read unto them but one of his books, when he hath another in the world, which we never study past the title or outside; although the great God have made them an Epistle Dedicatory to the whole race of Mankind?

This is my indeavour and pains in this Book, that I might profit and delight the Reader, whereinto he may look on the Holiest daies, (not omitting prayer and the publick service of God) and passe away the Sabbaths in heavenly meditations upon earthly creatures. I have followed *D. Gesner* as neer as I could, I do profess him my Author in most of my Stories, yet I have gathered up that which he let fall, and added many Pictures and Stories as may appear by Conference of both together. In the names of the Beasts, and the Physick I have not swarved from him at all. He was a Protestant Physician, (a rare thing to finde any Religion in a Physitian) although *St. Luke* a Physician were a writer of the Gospell. His praises therefore shall remain, and all living Creatures shall witnesse for him at the last day. This my labor whatsoever it be, I consecrate to the benefit of all our *Englisb* Nation under your Name and Patronage, a publick Professor, a learned and reverend Divine, a famous Preacher, observed in Court and Countrey; if you will vouchsafe to allow of my Labors, I stand not upon others, and if it have your commendation, it shall encourage me to proceed to the residue, wherein I fear no impediment but ability to carry out the charge, my case so standing that I have not any accesse of maintenance, but by voluntary benevolence for personal pains, receiving no more but a laborious wages, and but for you, that had also been taken from me: Therefore I conclude with the words of *St. Gregory* to *Leontius*, *Et nos bona qua de vobis multipliciter predicantur addiscentes, assidue pro gloria vestra incolumitate omnipotentem valeamus Dominum deprecari.*

Your Chaplain in the Church of

St. Borolp Aldersgate,

Edward Topset.

An

An Alphabetical Table of all the Creatures described in
this First Volum.

A.		F.		N.	
A Ntalope,	pag. 1	F Erret,	170	N Aides,	440
Ape,	2	Fitch or Poulcat,	172	O.	
Monkey,	5	Fox,	173	O Unce,	440
More kinds of Apes,	ibid.	Crucigeran Fox,	174	Oryx,	442
Asses of divers kinds,	16, &c.			Otter,	444
Alborach and Axis,	26				
B.		G.		P.	
B Adger,	26	G Ennet cat,	179	P Anthar, Leopard, or Libbard,	447
Bear,	28	Goats and their kinds,	181	Poephagus,	455
Beaver,	34	Gulon,	205	Porcupine,	456
Bison,	39	Gorgon,	206		
Bonafus,	42			R.	
Buff,	44			R Eyner or Ranger,	458
Bugle,	45			Rhinoceros,	460
Bull,	47				
Buselaphus,	51			S.	
Ox,	52			S Erpents,	591, &c.
Cow,	55			Sheep and their kinds, diseases,	464, &c.
Calf,	69			and cures,	509
C.				Squirrel,	511
C Acw,	71			Su,	ibid.
Camel,	72			Swine and their kinds, diseases and	512, &c.
Camel Dromedary,	76			cures,	
Camelopardal,	78			T.	
Allocamelus,	79			T Atlas,	546
Camp,	80			Tiger,	547
Cat,	ibid.				
Wilde Cat,	84			U.	
Colus,	85			U Nicorn,	551
Cony,	86			Urex,	559
Indian Pig,	88				
D.				W.	
D eer fallow,	89			W Ilde Oxen,	561
Roe buck,	90			Weasel,	562
Tragelaphus,	93			Wolf,	568
Hart and Hind,	95			Sea Wolf,	580
Dictees,	108				
Dogs,	ibid.			Z.	
Their kinds,	ibid.			Z Ebel or Sabel,	584
E.				Zibet or Sivet-cat,	585
E Al of Ethiopia,	149				
Elephant,	ibid.				
Elk,	166				
		M.			
		M Arder, Martel, or Martin,	386		
		Mole,	388		
		Mice and Rats, and their kinds,	392, &c.		
		Musk-cat,	427		
		Mules,	431		



I

THE HISTORY OF Four-Footed Beasts.

The *ANTALOPE*.



HE *Antelope* called in Latin *Calopus*, and of the Grecians *Analopos*, or *Apiolos*: of this beast there is no mention made among the Ancient Writers, except *Suidas*, and the Epistle of *Alexander* to *Aristotle*, interpreted by *Cornelius Nepotius*. They are bred in *India* and *Syria*, neer the River *Euphrates*, and delight much to drink of the cold water thereof: Their body is like the body of a *Roe*, and they have horns growing forth of the crown of their head, which are very long and sharp; so that *Alexander* affirmed they pierced through the shields of his Souldiers, and fought with them very irefully: at which time his company slew as he travelled to *India*, eight thousand five hundred and fifty; which great slaughter may be the occasion why they are so rare, and seldom seen to this day, because thereby the breeders and means of their continuance (which consisted in their multitude) were weakned and destroyed. Their horns are great and made like a saw, and they with them can cut asunder the branches of *Olier* or small trees, whereby it cometh to passe that many times their necks are taken in the twists of the falling boughs, whereat the Beast with repining cry, bewrayeth himself to the Hunters, and so is taken. The virtues of this Beast is unknown, and therefore *Suidas* saith, an *Antelope* is but good in part.

Counrey of breed.

of the APE.



Cicero.
Claudian.
Martial.
Horace.
Of the name.

The small use
of Apes.

* Athenæus.

Apes made for
laughter.

Qualities of
Apes.

* Varinus.

Docibility of
Apes.

Hurts received
by Apes.

An History.

AN Ape called in Latin *Simia*, and sometimes *Simius* and *Simiolus*; of the Greek word *Simos* (*viz.*) signifying the flatness of the Nostrils: for so are an Apes: and called of the Hebrews *Koph*, and plurally *Kophim*; as it is by S. Jerom translated, 1 King. 10. 22. From whence it may be probably conjectured, came the Latin words *Cepi* and *Cephi*, for Apes that have tails. Sometimes they are called of the Hebrews *Bogtab*, and of the Chaldees *Kokin*. The Italians *Samada Majonio*, and *Beruccio*, and a Munkey *Gatto Maimone*. The ancient Grecians *Pithecus* and the later *Mimon*, and *Arkhizanes*, by reason of his imitation. The Moors *Bugia*, the Spaniards *Mona*, or *Ximio*, the French *Singe*, the Germanes *Aff*, the Flemish *Simme* or *Schimmekel*, the Illyrians *Opiuze*, and generally they are held for a subtil, ironical, ridiculous and unprofitable Beast, whose flesh is not good for meat, as a sheep, neither his back for burden, as an Asses; nor yet commodious to keep a house, like a Dog; but of the Grecians termed *Gelotopoius*, made for laughter.

* *Anacharsis* the Philosopher, being at a banquet wherein divers Jesters were brought in to make them merry, yet never laughed, among the residue; at length was brought in an Ape, at the sight whereof he laughed heartily; and being demanded the cause why he laughed not before, answered, that men do but feign merriments, whereas Apes are naturally made for that purpose. Moreover Apes are much given to imitation and derision, and they are called *Cercopes*, because of their wicked wafts, deceits, impostures and flatteries: wherefore of the Poets it is fained, that there were two brethren most wicked fellows, that were turned into Apes, and from their seat or habitation came the the *Pithecan* Islands, which *Virgil* calleth *Inarime*: for *Arime* was an old *He-trurian* word for an Ape, and those Islands being the seats of the * Giants (who being by God overthrown for their wickedness) in derision of them, Apes were planted in their rooms. Apes have been taught to leap, sing, drive Wagons, reigning and whipping the horses very artificially, and are very capable of all humane actions, having an excellent memory either to shew love to his friends, or hateful revenge to them that have harmed him, but the saying is good, that the threatning of a flatterer, and the anger of an Ape, are both alike regarded. It delighteth much in the company of Dogs and young Children, yet it will strangle young Children if they be not well looked unto. A certain Ape seeing a Woman washing her Child in a basin of warm water, observed her diligently, and getting into the house when the Nurse was gone, took the Child out of the cradle, and setting water

water on the fire, when it was hot, stripped the Child naked, and washed the Child therewith untill it killed it.

The Countreys where Apes are found, are *Lybia* and all that desert Woods betwixt *Egypt*, *Æthiopia* and *Lybia*, and that part of *Caucasus* which reacheth to the red Sea. In *India* they are most abundant, both red, black, green, dust-colour, and white ones; which they use to bring into Cities (except red ones, who are so venereous that they will ravish their Women) and present to their Kings, which grow so tame, that they go up and down the streets so boldly and civilly, as if they were Children, frequenting the Market places without any offence: whereof so many shewed themselves to *Alexander* standing upright, that he deemed them at first to be an Army of enemies, and commanded to joyn battel with them, untill he was certified by *Taxilus* a King of that Countrey then in his Campe, they were but Apes.

In *Caucasus* there are trees of Pepper and Spices whereof Apes are the gatherers, living among those trees: for the Inhabitants come, and under the trees make plain a plat of ground, and afterward cast thereupon boughs and branches of Pepper, and other fruits, as it were carelessly; which the Apes secretly observing, in the night-season they gather together in great abundance all the branches loaden with Pepper, and lay them on heaps upon that plat of ground, and so in the morning come the *Indians* and gather the Pepper from those boughs in great measure, reaping no small advantage by the labor of Apes, who gather their fruits for them while they sleep: for which cause they love them and defend them from Lions, Dogs, and other wild Beasts. In the region of *Basman*, subject to the great *Cham* of *Tartaria*, are many and divers sorts of Apes, very like mankind, which when the Hunters take, they pull off their hairs all but the beard and the hole behind, and afterward dry them with hot spices, and powdering them, sell them to Merchants, who carry them about the world, perswading simple people that there are men in Islands of no greater stature. To conclude, there are Apes in *Troglodyte* which are maned about the neck like Lions, as big as great Bel-weathers. So are some called *Cercopitheci*, *Munkies*, *Chæropitheci*, *Hog-Apes*, *Cepi*, *Callitriches*, *Marmosits*, *Cynocephali*, of a Dog and an Ape, *Satyres*, and *Sphinges*, of which we will speak in order, for they are not all alike, but some resemble men one way, and some another: as for a *Chymæra*, which *Albertus* maketh an Ape, it is but a figment of the Poets. The same man maketh *Pigmeys* a kind of Apes, and not men, but *Niphus* proveth that they are not men, because they have no perfect use of Reason, no modesty, no honesty, nor justice of government, and although they speak, yet is their language imperfect; and above all they cannot be men, because they have no Religion, which (*Plato* saith truly) is proper to every man. Besides, their stature being not past three, four, or five spans long, their life not above eight years, and their imitation of man, do plainly prove them rather to be Apes than Men: and also the flatness of their Noses, their combats with Cranes and Partridges for their egges, and other circumstances I will not stand upon, but follow the description of Apes in general. Apes do outwardly resemble men very much, and *Vesalius* sheweth, that their proportion differeth from mans in more things than *Galen* observed, as in the muscles of the breast, and those that move the armes, the elbow and the ham, likewise in the inward frame of the hand, in the muscles moving the toes of the feet, and the feet and shoulders, and in the instrument moving in the sole of the foot, also in the fundament and mesentery, the lap of the liver, and the hollow vein holding it up, which men have not; yet in their face, nostrils, ears, eye-lids, breasts, armes, thumbes, fingers and nails, they agree very much. Their hair is very harsh and short, and therefore hairy in the upper part like men, and in the neather part like beasts: they have teeth before and behind like men, having a round face, and eye-lids above and beneath, which other *Quadrupedes* have not. *Politianus* saith, that the face of a Bull or Lion is more comely than the face of an Ape, which is like a mans. They have two Dugs, their breasts and armes like men, but rougher, such as they use to bend, as a man doth his foot. So their hands, fingers and nails, are like a mans, but ruder and nimbler; and nature having placed their Dugs in their breast, gave them armes to lift their young ones up to suck them. Their feet are proper, and not like mans, having the middle one longest, for they are like great hands, and consist of fingers like hands, but they are alike in bigness, except that which is least to a man, is greatest to an Ape, whose sole is like the hand but that it is longer, and in the hinder part it is more fleshy, somewhat resembling a heel, but put backward it is like a fist.

They use their feet both for going and handling; the neather parts of their armes, and their thighs are shorter then the proportion of their elbows and shins: they have no Navel, but there is a hard thing in that place; the upper part of their body is far greater then the neather, like other *Quadrupedes*, consisting of a proportion between five and three: by reason whereof they grow out of kind, having feet like hands and feet. They live more downward then upward, like other four-footed Beasts, and they want Buttocks, (although *Albertus* saith they have large ones) they have no tail, like two legged creatures, or a very small signe thereof. The genitall or privy place of the female is like a Womans, but the Males is like a Dogs: their nourishment goeth more forward then backward, like the best Horses, and the *Arabian Seraph*, which are higher before then behind; and that Ape whose meat goeth forward by reason of the heat of heart and liver, is most like to a man, in standing upright: their eyes are hollow, and that thing in men is accounted for a signe of a malicious mind, as little eyes are a token of a base and abject spirit. Men that have low and flat Nostrils are Libidinous as Apes that attempt women, and having thick lips, the upper hanging over the neather, they are deemed fools, like the lips of Asses and Apes. *Albertus* saith, he saw the heart of a Male Ape, having two tops or sharpe ends, which I know not whether to term a wonder or a Monster. An

Countreys
breeding Apes.

Book of
Voyages.

Labour of
Apes.

Diversity of
Apes.

Chymæra.

lib. 7. x. de animal.

Pygmeys.

Onesicritus.

The anatomy
of Apes.

Ape and a Cat have a small back, and so hath a weak hearted man, a broad and strong back signifieth a valiant and magnanimous mind. The Apes nails are half round, and when they are in copulation, they bend their Elbowes before them, the sinews of their hinder joynts being turned clean about, but with a man it is clean otherwise. The veins of their armes are no otherwise dissected then a mans, having a very small and ridiculous crooked thumb, by reason of the Muscles which come out of the hinder part of the leg, into the middle of the shin, and the fore muscles drawing the leg backward, they cannot exactly stand upright, and therefore they run and stand, like a man that counterfeits a lame mans halting.

The dispositi-
on of Apes.

And as the body of an Ape is ridiculous, by reason of an indecent likeness and imitation of man, so is his soul or spirit; for they are kept only in rich mens houses to sport withall, being for that cause easily tamed, following every action he seeth done, even to his own harme without discreti-

An History.

on. A certain Ape after a shipwrack swimming to land, was seen by a Countrey-man, and thinking him to be a man in the water, gave him his hand to save him, yet in the mean time asked him what Countreyman he was, who answered, he was an *Athenian*: well, said the man, dost thou know *Piræus*? (which was a port in *Athens*) very well said the Ape, and his wife, friends, and children, where-

Places of their
abode.

at the man being moved, did what he could to drown him. They keep for the most part in Caves

Food of Apes.

and hollow places of hills, in rocks and trees, feeding upon Apples and Nuts, but if they find any

The manner of
taking Apes.

bitterness in the shell, they cast all away. They eat Lice, and pick them out of heads and garments.

They will drink wine till they be drunk, but if they drink it oft, they grow not great, specially they

lose their nails, as other *Quadrupedes* do. They are best contented to sit aloft, although tied with

chains. They are taken by laying for them shoos and other things, for they which hunt them will

anoint their eyes with water in their presence, and so departing, leave a pot of lime or hony in

stead of the water, which the Ape espying, cometh and anointeth her eyes therewith, and so being

not able to see, doth the hunter take her. If they lay shoos, they are leaden ones, too heavy for them

to wear, wherein are made such devises of gins, that when once the Ape hath put them on, they

cannot be gotten off without the help of man: So likewise for little bags made like breeches, where-

Procreation of
Apes.

withal they are deceived and taken. They bring forth young ones for the most part by twins, whereof

they love the one and hate the other; that which they love they bear in their armes, the other hang-

eth at the damns back, and for the most part she killeth that which she loveth, by pressing it too

hard; afterward she setteth her whole delight upon the other.

Secrets in their
nature.

The *Egyptians* when they describe a Father leaving his inheritance to his Son that he loveth not,

picture an Ape with her young one upon her back. The male and female abide with the young one,

and if it want any thing, the male with fift, and mesul aspect punisheth the female. When the Moon

is in the wane, they are heave and sorrowful, which in that kind have tails, but they leap and rejoyce

at the change: for as other Beasts, so do these, fear the defect of the Stars and Planets. They are full of

Their imitati-
on.

disimulation, and imitation of man, they readilyer follow the evil then the good they see. They

are very fierce by nature, and yet tamed forgeit, but still remain subject to madness. They love

Conies very tenderly, for in *England* an old Ape (scarse able to go) did defend tame Conies from

the Weasel, as Sir *Thomas More* reported. They fear a shell fish and a Snail very greatly, as appeareth

by this History.

Their love.

Their fear.

In *Rome*, a certain Boy put a Snail in his hat and came to an Ape, who as he was accustomed, leaps

upon his shoulder and took off his hat to kill Lice in his head, but espying the Snail, it was a wonder

to see with what haste the Ape leaped from the Boys shoulder, and in trembling manner looked back

to see if the Snail followed him. Also when a Snail was tied to the one end of another Apes chain, so

that he could not chuse but continually look upon it, one cannot imagine how the Ape was tormen-

ted therewith, finding no means to get from it, cast up whatsoever was in his stomach, and fell into

a grievous Fever till it was removed from the Snail, and refreshed with wine and water. *Cardane* re-

porteth, that it was an ancient custom in former time when a Parricide was executed, he was

(after he was whipped with bloody stripes) put into a sack, with a live Serpent, a Dog, an Ape and

a Cock: by the Serpent was signified his extreme malice to mankind in killing his Father, by the Ape

that in the likeness of man he was a Beast, by the Dog how like a Dog he spared none, no not his

own Father, and by a Cock his hateful pride, and then were they all together hurl'd headlong

into the Sea. That he might be deemed unworthy of all the Elements of life, and other blessings

of nature.

An antiquity.

A Lion ruleth the Beasts of the Earth, and a Dolphin the Beasts of the Sea; when the Dolphin

is in age and sickness, she recovereth by eating a Sea-ape: and so the Lion by eating an Ape of

the earth, and therefore the *Egyptians* paint a Lion eating an Ape, to signifie a sick man curing

himself. The heart of an Ape sod and dryed, whereof the weight of a groat drunk in a draught of

stale Hony, sod in water, called *Melicator*, strenghteneth the heart, emboldneth it, and driveth away

the pulse and pusillanimity thereof: sharpeneth ones understanding, and is soveraign against the fal-

ling evil.

The medicine
of Apes.

The

The MUNKEY.

The Munkey called in Greek *Cercopithecus*, and so in Latin *Cercopithecus*, that is, a tailed Ape: not to distinguish it from all other Apes, but from other vulgar and common Apes, for there be Apes with tails besides a Munkey, but not so often seen. It is thought of some that the Hebrew *Ziim*, signifieth a Munkey, other *Ochim*. Isa. 13. *Babel shal be destroyed, and the fearful beast Ziim shal lie there, and Ochim shal fill their houses.* Which *Ochim*, is interpreted Munkeys, but not generally; wherefore there is an opinion that this kind of Ape is generated of a wild Cat very like an Ape, and an Ape having two black spots on the cheeks, a long tail, and black at the end thereof, it is called of the Italians *Gatto maimone*, of the French *Marmot* or *Marmona*, that is, the Ape of a male, for *Mona* signifieth an Ape, of the Germans *Meerkatz*, that is the Cat of the Sea, of the Illyrian, *Morska*, and *Koczka*, as for *Mammonet*, it is a beast lesse

Their names.

*Munster.**Albertus.*
Generation of
a Munkey.*Mavis-mona.*

then an Ape; of the Celts it is called *Abranas*. They are very sportful, and given to imitate the actions of men like Apes, it being a question, whether Dogs, Elephants, or Munkeys, have the most understanding among Brutes, and as was said before, when the Moon waneth, it is heavie and dull, but in the new Moon jocund and pleasant. Betwixt the *Mammonets* and Apes is continuall war, and the *Mammonet* being the weaker, yet the wiser and craftier creature, is much more couragious in fight than an Ape. These Munkeys of all things most abhor a *Crocodile*, for at the sight of the skin afar off, it hath been seen how the creature hath run through fire and water, crying and trembling for the naturall dread thereof.

They are bred in the hills of *Constance*, in the woods of *Bugia* and *Mauritania*. In *Æthiopia*, they have black heads, hair like *Asses*, and voices like to other. In *India* they report that the Munkeys will clime the most steep and high rocks, and sling stones at them that prosecute to take them. When the King of *Ioga* in *India* for Religion goeth on Pilgrimage, he carryeth with him very many Munkeys. In like sort, Munkeys are brought from the new found Lands, from *Calecut* and *Prasia*; and not far from *Aden* a City of *Arabia*, is a most high hill abounding in these beasts, who are a great hinderance to the poor vintagers of the Countrey of *Calecut*, for they will climb into the high Palm trees, and breaking the vessels set to receive the Wine, pour forth that liquor they find in them: they will eat hearbs and grain, and ears of grasse, going together in great flocks, whereof one ever watcheth at the utmost bounds of their camp, that he may cry out when the husbandman cometh, and then all flying and leaping into the next trees escape away: the females carry their young ones about with them on their shoulders, and with that burden leap from tree to tree.

There be of this kind of Munkeys two sorts, one greater, the other lesser, as is accounted in *England*, and Munkeys are in like sort so divided, that there be in all four kinds differing in bigness, whereof the least is little bigger then a *Squirrel*, and because of their marvellous and divers mowings, movings, voices and gestures, the Englishmen call any man using such *Histrionical* Actions a Munkey.

The only difference betwixt these and other Apes aforesaid, is their tail; they differ from men in their nerves, in the joints of their loynes, and their processes, and they want the third muscle moving the fingers of their hands. *Mammonets* are lesse then an Ape, brown on the back, and white on the belly, having a long and hairy tail, his neck almost so big as his body, for which cause they are tied by the hips that they slip not collar. They have a round head, a face like a man, but black and bald on the crown, his nose in a reasonable distance from his mouth like a mans, and not continued like an Apes, his stones greenish blew, like a Turkey stone. They are caught after the manner of

Inclination of
Munkeys.Secrets of
Munkeys nature.

Contention.

The fear of a
Munkey.*Job. Leo.*
*African.*The Countrey
of their abode
and breed.Hurt of Mun-
keys.

Their food.

Diversities of
Munkeys.*Solinus.*
Their anatomy
and parts.*Vesalius.*
Mammonets.

Festus.

Another kind.

Apes, and being tamed and taught, they conceive and work very admirable feats, and their skins pulled off them being dead are dressed for garments. The foolish *Arabians* dedicated *Memmonius cer-*
copithecus unto heaven, and in all afflictions implored his aid. There is one other kind of Munkeys, whose tail is only hairy at the tip, called *Cercolipis*.

The *CEPHUS*, or *Martine Munkey*.

The names.

Diodorus
Siculus.

The *Martin* called *Cepus* of the Greek word, *Kepos*, which *Aristotle* writeth *Kebos*, and some translate *Cebus*, some *Cephus* or *Cephus* or more barbarously *Celphus*, the Latines sometimes *Ortus*, for indeed this kind of Ape in his best estate is like * a garden set with divers flowers, and therefore the best kind of them is discerned and known by the sweetest savour, such being alwayes the most ingenious imitators of men. It is very probable that this name *Cepus* is derived of the Hebrew *Koph* and *Kophin* signifying Apes in general, as is before said, but yet this kind is distinguished from other by *Strabo*, *Ælianus* and *Pliny*, although *Aristotle* doth make no difference betwixt this and another ordinary Munkey.

Pliny.

The first
knowledge of
Martines.Their Coun-
try of breed.
Strabo.Their anat-
omy.
Strabo.
Staliger.

The games of great *Pompey* first of all brought these *Martines* to the sight of the *Romans*, and afterward *Rome* saw no more; they are the same which are brought out of *Æthiopia* and the farthest *Arabia*; their feet and knees being like a mans, and their forefeet like hands, their inward parts like a mans, so that some have doubted what kind of creature this should be, which is in part a man, and yet a Four-footed beast: it having a face like a Lion, and some part of the body like a Panther, being as big as a wilde Goat or Roe-buck, or as one of the Dogs of *Eriubrea*, and a



Their colour.

Ælianus.

Cay.

Their dispo-
sition.

long tail, the which such of them as have tasted flesh wil eat from their own bodies. Concerning their colour, howsoever they are not all alike, for some are black with white spots, having a greater voice then others, some yellow, some Lion-tauny, some golden-yellow, and some cole-black: yet for the most part, the head and back parts to the tail, are of a fiery colour, with some golden hair asperfed among the residue, a white snowt, and certain golden strakes like a collar going about the neck, the inferiour parts of the neck down to the breast, and the forefeet are white, their two duggs as big as a mans hand can gripe, are of a blewish colour, and their belly white, their hinder legs black, and the shape of their snout like a *Cynocephale*: which may be the difference betwixt *Ælianus* and *Strabo* their *Cepus*, and *Aristotles* *Cebus*, for nature many times bringeth forth like beasts which are not of the same kind. In *England* there was a *Martine* that had his back and sides of a green colour, having here and there white hair, the belly, chin and beard (which was round) white, the face and shins black, and the nose white, being of the lesser kind, for in bigness it exceeded not a Coney. Some of them in *Æthiopia* have a face like a Satyre, and other members in part resembling a Bear, and in part a Dog, so are the *Prasian* Apes. This *Martine* did the *Babylonians*, inhabiting neer *Memphis*, for the strangeness, the colour, and shape thereof, worship for a God. They are of evill disposition like Apes, and therefore we will spare both their pictures and further description, finding very little of them in Histories worth commemoration.

The Ape CALITRICH.



THe Calitrich, so called by reason of his beard, and may be termed in English a bearded Ape, will live no other where then in *Ethiopia* and *India*, which are easie to take, but very hard to bring away alive into these Countrys. They differ in appearance from all other Apes, having a long beard and a large tail, hairy at the end, being in *India* all white, which the *Indians* hunt with darts, and being tamed, they are so apt to play, that a man would think they were created for no other purpose; whereupon the *Grecians* use in proverbe, an Ape having a beard, for a ridiculous and foolish jesting man.

The name.

Pliny.
Country of
breed.

Their parts
and colour.

Albertus.

Erasmus.

Of the Prasyan Apes.



Megasthenes (saith *Ælianus* and *Strabo*) writeth of Apes in *Prasia* a Region in *India*, which are no lesse then great Dogs, and five cubits high, having hair like a Man coming forth of their forehead and beards, being altogether white except their tails, which are two cubits and a half long, very like a Lions; and unto a simple man it might seem, that their tufts of hair were artificially trimmed, though it grow naturally. Their beard is much like a Satyres, and although their body be white, yet is their head and tip of their tail yellow, so that the *Martins* before mentioned, seem to be affanced to these. These *Prasyan* Apes live in Mountains and Woods, and yet are they not wilde, but so tame that oftentimes in great multitudes they come down to the Gates and Suburbs of *Latagis*, where the King commandeth them dayly sodden Rice for their food, which they eat, and being filled return again to their home and usuall places of harbour in great moderation, doing no harme to any thing.

Their resemblance.

Ælianus.
Place of their
abode.

Their food.

Peter

Lib. 4. Ocean.
Decad. 3.

Peter Martyr telleth this story of one of these, that he being like to a great Munkey, but having a longer tail, by rowling over and over three or four times together taketh such strength, that he leapeth from bough to bough, and tree to tree, as if he flew. An archer of that Sea-voyage hurt one of them with an arrow, the wounded beast presently leapeth to the ground, and setteth upon the archer, as fiercely as a mad Dog; he drew his sword and struck off one of his armes, and so at last with much ado took the maimed beast, who being brought to the Navy, and accustomed to the society of men, began by little and little to waxe tame.

Peter Martyr.

The hatred of
these Apes.

While he was in the ship bound with chains, other of the company having been on land to forrage, brought out of the Marshes a Bore, which Bore was shewed to the Munkey; at the first sight either of other set up their bristles, the raging Munkey leapeth upon the Bore, and windeth his tail round about the Bore, and with the one arme which he had left, caught him, and held him so fast by the throat, that he stifled him.

His love.

There is another kind of Munkey, for stature, bignesse and shape like a Man, for by his knees, secret parts and face, you would judge him a wilde man, such as inhabit *Namidia*, and the *Lapones*, for he is altogether overgrown with hair; no creature, except a man can stand so long as he; he loveth women and children dearly, like other of his own kind, and is so venereous that he will attempt to ravish women, whose Image is here described, as it was taken forth of the book of the description of the holy Land.



Of the *CYNOCEPALE* or *BABOUN*.



Aristotle.

Pliny.

Description.

Arrianus.

Prefter John

ad Rom pont.

Cynocephales, are a kind of Apes, whose heads are like Dogs, and their other parts like a mans; wherefore *Gaza* translateth them *Canicipites*, (to wit) dog-heads. In the French, German, and Illyrian tongues, they are called of some *Babion*, and *Babuino* in Italian, is a small kind of Ape; but Aristotle saith, that a *Cynocephale* is bigger then an Ape. In English they are called *Babouns*. There are many kinds of *Babouns*, whereof some are much given to fishing, so that they will tarry a whole day in the deep hunting for fish, and at length come forth with a great multitude. Again, there are some which abhor fishes, (as *Orus* saith) which kind the Egyptians Emblematically use to paint

paint, when they will decipher a sacrifice. Some there are which are able to write, and naturally to discern letters; which kind the old *Egyptian* Priests bring into their Temples, and at their first entrance the Priest bringeth him a writing Table, a pencil and inke, that so by seeing him write, he may make tryall whether he be of the right kind and the beast quickly sheweth his skill: wherefore in ancient time, they were dedicated to *Mercury*, the fained god of learning.

The reason why the *Egyptians* do nourish them among their hallowed things is, that by them they may know the time of the conjunction betwixt the Sun and Moon; because the nature of this beast is, to have a kind of feeling of that conjunction, for after that these two signs meet, the male *Baboun* neither will look up nor eat, but cast his eyes to the ground, as it were lamenting the ravishment of the Moon with disdainful passion. In like manner the female, who moreover, at that time sendeth forth blood out of her womb of conception: whereupon the *Egyptians* signifie by a *Baboun* the Moon, the rising of the Moon, by his standing upright holding his hands up toward heaven, and wearing a crown on his head, because with such gestures doth that Beast congratulate her first appearance.

Another cause why they bring them into their Temples is, because of the holyness of circumcision, for it is most true (though strange) that they are brought forth circumcised, at the least wise in some appearance; whereunto the Priests give great heed to accomplish and finish the work begun. The *Egyptians* also paint a *Baboun* sitting, to signifie the *Equinoctium*, for in every *Equinoctium* they bark or howl twelve times in one day, and so many times make water: wherefore the *Egyptians* also upon their *Hydrologies* or *Conduits* did grave a *Baboun*, out of whose yard or privy part issued forth water; and they also say that this beast so nourished among their holy things, dyeth not at once like other beasts, but every day one part by the space of 72 days (the other parts remaining in perfection of nature) which the Priests take and put in the earth day by day, till all perish and be consumed.

The West region of *Lybia* and *Aethiopia* have great store of *Cynocephals*, *Babouns*, and *Acephals*, beasts without a head, whose eyes and mouth are in their breasts. In like sort in *Arabia*, from *Dira* Southward in a Promontory, there are many *Babouns*, and in the Continent called *Dachinabades* beyond *Barygaza*, and the Eastern Mountains of the *Mediterranean* region; and those which *Apollonius* saw betwixt the rivers *Ganges*, and *Hyphasis*, seem to be of this sort, in that he describeth them to be black haired, Dog-faced, and like little men; wherewithall *Aelianus* seemeth to be deceived, in saying, that there are men *Cynocephoi*, Dog-faced, whereas it is the error of vulgar people, to think that *Babouns* are men, differing only in the face or visage.

Concerning their members or parts in severall, they are black and hairy, rough skinned, red and bright eyes, a long Dogs face, and teeth stronger and longer then Dogs: the face of a Lion must not be attributed to this beast, nor yet a Satyres, though it be more like. It hath a grim and fearful face, and the female hath naturally her womb cast out of her body, and yet they understand the *Indian* language; under their beard they have a chin growing like a Serpents, and bearding about the lips like a Dragon; their hands are armed with most strong nails, and sharp; they are very swift of foot, and hard to be taken, wherefore they will run to the waters when they are hunted, being not ignorant, that among waters they are most hardly taken; they are very fierce and active in leaping, biting deep and eagerly where they lay hold, neither do they ever grow so tame, but that they remain furious also. They love and nourish sheep and Goats, and drink their milk; they know how to take the kernels out of Almonds, Walnuts and Nuts, as well as men, finding the meat within, though the shell be unprofitable: they will also drink wine and eat flesh, sod, roasted, or deliciously dressed, and they will eat Venison, which they by reason of their swiftness take easily, and having taken it tear it in pieces and roast it in the Sun; they can swim safely over any waters, and therefore among the *Egyptians* they signifie swimming.

They are evill mannered and natured, wherefore also they are pictured to signifie wrath, they are so unappeasable. The Latins use them adjectively to signifie any angry, stubborn, froward, or raving man. They will imitate all humane actions, loving wonderfully to wear garments, and of their own accord they clothe themselves in the skins of wilde beasts they have killed, they are as lustful and venereous as Goats, attempting to defile all sorts of women, and yet they love little children, and their females will suffer them to suck their breasts if they be held to them, and some say they will suck womens breasts like little children. There was such a beast brought to the French King, his head being like a Dogs, and his other parts like a mans, having legs, hands and armes naked like a mans, and a white neck; he did eat sod flesh so mannerly and modestly, taking his meat in his hands, and putting it to his mouth, that any man would think he had understood humane conditions: he stood upright like a man, and sat down like a man. He discerned men and women asunder, and above all loved the company of women, and young maidens; his genital member was greater then might match the quantity of his other parts: he being moved to wrath, would rage and set upon men, but being pacified, behaved himself as meekly and gently as a man, and was overcome with fair words; shewing himself well pleased with those that sported with him. The *Nomades* people of *Aethiopia*, and the Nations of *Menitmor* live upon the milk of *Cynocephals*, keeping great herds of them, and killing all the males, except some few preserved for procreation.

The industry of *Babouns*.

Orus.

A secret in their nature.

Circumcision natural in *Babouns*.

Orus.

Another secret.

A wonder.

Orus.

Herodotus.

The Countrey of their abode and breed.

Strabo.

Arrianus.

Their anatomy and parts.

Albertus.

Their voice.

Aelianus.

Their love and food.

Their activity in swimming.

Their nature in particular.

Their love of garments.

An History.

Lib de natura rerum.

A TARTARINE.

Theod. Beza.

There was at *Paris* another beast called a *Tartarine*, and in some places a *Magot* (much like a *Baboun*, as appeareth by his natural circumcision) being as great as a *Gray-hound*, and walketh for the most part upon two legs, being cloathed with a *Souldiers coat*, and a sword girded to his side, so that the most part thought him to be some *Monster-little-man*, for being commanded to his kennel, he would go and tarry there all night, and in the day time walk abroad to be seen of every man, it was doubtful whether he were of the *Munkey* kind or the *Baboun*, his voice was like the squeeking of a *Mouse*, but his aspect and countenance was fierce, truculent and fearful, as his image is here deciphered.



The SATYRE.

Superstitious error of Satyres.

Their name.

Gyraldus.

Grapaldus.

As the *Cynocephal* or *Baboun* Apes have given occasion to some to imagine (though falsely) there were such men, so the *Satyres* a most rare and seldom seen beast, hath occasioned other to think it was a *Devil*; and the Poets with their Apes, the Painters, Limmers, and Carvers, to encrease that superstition, have therefore described him with horns on his head, and feet like *Goats*, whereas *Satyres* have neither of both. And it may be that *Devils* have at some time appeared to men in this likeness, as they have done in the likenesse of the *Onocentaure* and wild *Asse*, and other shapes; it being also probable, that *Devils* take not any denomination or shape from *Satyres*, but rather the Apes themselves from *Devils* whom they resemble, for there are many things common to the *Satyre*-Apes and *Devilish*-*Satyres*, as their humane shape, their abode in solitary places, their rough hair, and lust to women; wherewithall other Apes are naturally infected: but especially *Satyres*. Wherefore the Ancient *Grecians* conjecture their name to be derived as it were of *Stathos*, signifying the yard or virile member: and it is certain that the *Devils* have exercised their prestigious lust, or rather their imagination of lust upon mankind, whereof cometh that distinction of *Fanni*, that some are *Incubi* defilers of Women, and some *Succubi* defiled by men. Peradventure the name of *Satyre* is more fitly derived from the Hebrew *Sair*, Isa. 34. whereof the plural is *Seirim*, Isa. 13. which is interpreted monsters of the Desert, or rough hairy Fawnes; and when *issim* is put to *seir*, it signifieth *Goats*.

The *Chaldeans* for *Seirim*, render *Schedin*; that is, evil *Devils*: and the *Arabians*, *Desjabin*; that is, *Satanas*: the *Persians*, *Devan*; the *Illyrians*, *Devadai* and *Dewas*; the *Germans*, *Teufel*. They which passed through the world and exercised dauncing and other sports, for *Dionysius*, were called *Satyres*, and sometimes *Tyri*, because of their wanton songs; sometimes *Sileni* (although the difference is, that the smaller and younger beasts are called *Satyri*, the elder and greater *Sileni*). Also *Bacche* and *Nymphæ*, whereof *Bacchus* is pictured riding in a Chariot of Vinebranches, *Silenus* riding beside him on an *Asse*, and the *Bacche* or *Satyres* shaking together their stalkie Javelines and Paulmers. By reason of their leaping they are called *Scirti*, and the antick or Satyricall dancing *Sicinnis*, and they also sometimes *Sicinniste*; sometimes *Ægipana*: wherefore *Pliny* reporteth, that among the Western *Ethiopians*, there are certain little hills of the *Satyrique* *Ægipana*, and that in the night time they use great fires, piping and dauncing, with a wonderful noise of *Timbrels* and *Cymbals*: and so also in *Atlas* amongst the *Moores*, whereof there was no footing, remnant, or appearance to be found in the day time.

The

The *Satyres* are in the Islands *Satyridæ*, which are three in number, standing right over against *India* on the farther side of *Ganges*; of which *Euphemus* Car rebearseth this History. That when he sailed into *Italy*, by the rage of wind and evill weather, they were driven to a Coast unnavigable, where were many desert Islands inhabited of wilde men, and the Mariners refused to land upon some Islands, having heretofore had trial of the inhumane and uncivil behaviour of the inhabitants; so that they brought us to the *Satyrian Islands*, where we saw the inhabitants red, and had tails joyned to their back, not much less then horses. These being perceived by the Mariners to

Plol. 2, 7.
Countreys of
breed.

run to the Ships and lay hold on the women that were in them, the Ship-men for fear took one of the Barbarian women and set her on the land among them, whom in most odious and filthy manner they abused, not only in that part that nature hath ordained, but over the whole body most libidinously, whereby they found them to be very brute beasts.

Their Injust
disposition.

There are also *Satyres* in the Eastern mountains of *India*, in the Countrey of the *Cartaduli*, and in the Province of the *Cemari* and *Corude*, but the *Cebi* spoken of before bred in *Ethiopia*, are not *Satyres* (though faced like them:) nor the *Prasyan* Apes, which resemble *Satyres* in short beards.

Pliny.
Paul. Venet.

There are many kinds of these *Satyres* better distinguished by names than any properties natural known unto us. Such are the *Ægipana* before declared, *Nymphes* of the Poets, *Fawnes*, *Pan*, & *Sileni*, which in the time of the Gentiles were worshipped for gods; and it was one part of their Religion, to set up the picture of a *Satyre* at their doors and gates, for a remedy against the bewitching of envious per-

Diversity of
kinds.

Pliny.



sons; and the statue of *Priapus* in the *Agalma* of a *Satyre* in their Gardens: for which cause we read of many pictures made of *Satyres*. *Antiphalus* made a very noble one in a *Panthers* skin, calling it *Aposcopon*, that is, *Wry-faced*. Another Painter of *Aristides*, painted it crowned with a drinking cup, signifying thereby the beastliness of drunkards. *Miron* had one painted hearing and admiring pipes, and another called *Periboeios* at *Athens*, as is reported, & that *Praxiteles* was wonderfully in love therewith; whereupon being at supper with *Phryne* the noble harlot, who had begged of him the best piece of work he had, consented with this condition, that he would not tell her which he loved best; whereupon she to satisfy herself, privately suborned one of his slaves, to come in at supper time, and tell him his house and most of his goods were burned; whereat being amazed, demanded if *Cupid* and the *Satyre* were safe; by which she knew the best piece, and asked *Cupid*, refusing the *Satyre*. *Protagenes* had one painted holding pipes in his hand, and was called *Anapauomenos*; & *Timanthes* had painted *Cyclops* sleeping in a little tablet, with *Satyrs* standing beside him, measuring with a javelin the length of his thumb.

Pliny.

Hermolaus.

Pliny.

Satyres have no humane conditions in them, nor other resemblance of men beside their outward shape: though *Solinus* speak of them like as of men. They carry their meat under their chin as in a storehouse, and from thence being hungry they take it forth to eat, making it ordinary with them every day which is but annual in the *Formice* Lions; being of very unquiet motions above other Apes. They are hardly taken, except sick, great with young, old, or asleep; for *Sylla* had a *Satyre* brought him which was taken asleep near *Apollonia*, in the holy place *Nymphæum*, of whom he (by divers interpreters) demanded many questions, but received no answer, save only a voice much like the neying of a horse, whereof he being afraid, sent him away alive. *Philostatus* telleth another history, how that *Apollonius* and his colleagues supping in a village of *Ethiopia*, beyond the fall of *Nilus*, they heard a sudden outcry of women calling to one another; some saying, *Take him*, others, *Follow him*: likewise provoking their husbands to help them: the men presently took clubs, stones, or what came first to hand, complaining of an injury done unto their wives. Now some ten months before there had appeared a fearful shew of a *Satyre*, raging upon their women, and had slain two of them, with whom he was in love: the companions of *Apollonius* quaked at the hearing hereof, and *Nilus* one

Mela.

Resemblance
of *Satyres*.

Their provision
of food.

Their taking.

Taming of Satyres.

one of them sware (by *Jove*) that they heing naked and unarmed, could not be able to resist him in his outrageous lust, but that he would accomplish his wantonness as before: yet said *Apollonius*, there is a remedy to quail these wanton leaping beasts, which men say *Midas* used (for *Midas* was of kindred to Satyres, as appeared by his ears.) This *Midas* heard his mother say, that Satyres loved to be drunk with wine, and then sleep soundly, and after that be so moderate, mild and gentle, that a man would think they had lost their first nature.

Pausanias.
Macrobius.

Men like Satyres.

Whereupon he put wine into a fountain neer the high-way, whereof when the Satyre had tasted he waxed meek suddenly, and was overcome. Now, that we think not this a fable (saith *Apollonius*) let us go to the governor of the Town, and inquire of him whether there be any wine to be had that we may offer it to the Satyre: whereunto all consented, and they filled four great *Egyptian* earthen vessels with wine, and put it into the fountain where their cattel were watered; this done, *Apollonius* called the Satyre, secretly threatening him, and the Satyre enraged with the savour of the wine came; after he had drunk thereof, Now said *Apollonius*, let us sacrifice to the Satyre, for he sleepeth, and so led the inhabitants to the dens of the *Nymphes*, distant a furlong from the Town, and shewed them the Satyre, saying, Neither beat, curse, or provoke him henceforth, and he shall never harme you. It is certain, that the Devils do many wayes delude men in the likeness of Satyres, for when the drunken feasts of *Bacchus* were yearly celebrated in *Parnassus*, there were many sights of Satyres, and voices, and sounding of Cymbals heard; yet is it likely that there are Men also like Satyres inhabiting in some desert places; for *S. Jerom* in the life of *Paul the Eremit*e, reporteth there appeared to *S. Antony* an *Hippocentaure*, such as the Poets describe, and presently he saw in a rocky valley adjoyning, a little man having crooked nostrils, hornes growing out of his forehead, and the neather part of his body had Goats feet: the holy man not dismayed, taking the shield of Faith, and the breastplate of Righteousness, like a good Souldier of Christ, pressed toward him, which brought him some fruits of palms as pledges of his peace, upon which he fed in the journey; which *St. Antony* perceiving, he asked him who he was, and received this answer, I am a mortall creature, one of the inhabitants of this Desert, whom the Gentiles (deceived with error) do worship and call *Fanni*, Satyres, and *Incubi*: I am come in ambassage from our flock, intreating that thou wouldst pray for us unto the common GOD, who came to save the world; the which words were no sooner ended, but he ran away as fast as any fowl could flie. And lest this should seem false, under *Constantine* at *Alexandria*, there was such a man to be seen alive, and was a publick spectacle to all the World; the carcass whereof after his death was kept from corruption by heat, through salt, and was carried to *ANTIUCHIA* that the Emperor himself might see it.

Albertus.
Two beasts like Satyres taken.

Satyres are very seldom seen, and taken with great difficulty, as is before said: for there were two of those found in the Woods of *Saxony* towards *Dacia*, in a Desert, the female whereof was killed by the darts of the hunters, and the biting Dogs, but the male was taken alive, being in the upper parts like a Man, and in the neather part like a Goat, but all hairy throughout; he was brought to be tame, and learned to go upright, and also to speak some words, but with a voice like a Goat, and without all reason: he was exceeding lustful to women, attempting to ravish many of what condition soever they were, and of this kind there are store in *Ethiopia*.



The figure of another Monster.

THE famous learned man *George Fabricius*, shewed me this shape of a monstrous beast (the figure whereof see p. 12.) that is fit to be joyned to the story of Satyres. There was (said he) in the Territory of the Bishop of *Salzburg*, in a forrest called *Fannesbergh*, a certain four-footed beast, of a yellowish-carnation colour, but so wild that he would never be drawn to look upon any man, hiding himself in the darkest places, and being watched diligently, would not be provoked to come forth so much as to eat his meat, so that in a very short time it was famished. The hinder legs were much unlike the former, and also much longer. It was taken about the year of the Lord, One thousand five hundred thirty, whose image being here so lively described, may save us further labour in discoursing of his main and different parts and proportion.

Another monster like a Satyre.

Colour and nature.

Of the Norwegian Monsters.

WHEN as certain Ambassadors were sent from *James* the fourth of that name, King of *Scotland*, among whom was *James Ogill* that famous Scholar of the University of *Aberdene*, they no sooner took shipping and hoisted sail, but there sudainly arose such a tempestuous storm, that they were driven to the coasts of *Norway*: and there going on shoar, they were very strangely affrighted, to see (as to them it appeared) certain wild, monstrous men, running on the tops of the mountains. Afterward they were told by the inhabitants that they were beasts (and not men) which did bear mortal hatred to mankind, although they could not abide the presence of a mans countenance, yet in dark nights, when the reverend visage of humane creatures are covered, they will come down by troops upon the Villages, and except the barking of Dogs drive them back, they break open doors, and enter houses, killing and devouring whosoever they find; for their strength is so irresistible and great, that they can pull up by the roots a tree of mean stature, and tearing the boughs from the body, with the stock or stem thereof they fight one with another. Which when the Ambassadors heard, they caused a sure watch to be kept all night, and withall made exceeding great fires, and when the light appeared, they took their farewell of those Monster-breeding-shores, recovering with joy, the course which before they had lost by tempest.

Heb. Boet.

Monsters like Men.

Haired to mankind.

The great strength of these beasts.

Of the *ÆGOPITHECUS*.

UNDER the Equinoctial toward the East and South, there is a kind of Ape called *Ægopithecus*, an Ape like a Goat. For there are Apes like Bears, called *Arctopithecus*, and some like Lions, called *Leontopithecus*, and some like Dogs, called *Cynocephali*, as is before expressed; and many other which have a mixt resemblance of other creatures in their members.

Divers shaps of Apes.

Amongst the rest is there a beast called *PAN*, who in his head, face, horns, legs, and from the loins downwards resembleth a Goat; but in his belly, breast, and armes, an Ape: such a one was *Nicephorus*, sent by the King of *Indians* to *Calisthus*. *Constantine*, which being shut up in a Cave or close place, by reason of the wildness thereof, lived there but a season, and when it was dead and bowelled, they pouldred it with spices, and carried it to be seen at *Constantinople*: the which having been seen of the ancient *Grecians*, were so amazed at the strangeness thereof, that they received it for a god, as they did a Satyre and other strange beasts.

The description of Pan.

Nicephorus. *Calisthus*.

Of the SPHINGA or SPHINX.

Pliny.
Calistobius.
The description.

Ælianus.
Country of
breed.

Lions-formice.

Pliny.

Their nature.

Albertus.

Manner of carrying their meat.

Of the name and notation thereof.

* Hermolaus.

* Varrianus.

Hesiod.

Ausonius.

The description of the Poets Sphinx.

The Riddle of the Sphinx.

The solution of the Riddle by Oedipus.

Palæphatus.
The true History of Sphinx.

The *Sphinx* or *Sphinga* is of the kind of Apes, having his body rough like Apes, but his breast up to his neck, pilde and smooth without hair: the face is very round yet sharp and piked, having the breasts of women, and their favour or visage much like them: In that part of their body which is bare without hair, there is a certain red thing rising in a round circle like Millet seed, which giveth great grace and comeliness to their colour, which in the middle part is humane. Their voice is very like a mans but not articulate, sounding as if one did speak hastily with indignation or sorrow. Their hair brown or swarthy colour. They are bred in *India* and *Ethiopia*. In the Promontory of the farthest *Arabia* neer *Dira*, are *Sphinges*, and certain Lions called *Formice*, so likewise they are to be found amongst the *Troglodyte*. As the *Babouns* and *Cynocephales* are more wild then other Apes, so the *Satyres* and *Sphinges* are more meek and gentle, for they are not so wilde that they will not be tamed, nor yet so tame but they will revenge their own harms; as appeared by that which was slain in a publick spectacle among the *Thebans*. They carry their meat in the storehouses of their own chaps or cheeks, taking it forth when they are hungry, and so eat it: not being like the *Formice*, for that which is annual in them, is daily and hourly amongst these.

The name of this *Sphinx* is taken from * binding, as appeareth by the Greek notation, or else of delicacie and dainty nice * looseness, (wherefore there were certain common strumpets called *Sphinctæ*, and the *Megarian Sphingæ*, was a very popular phrase for notorious harlots) hath given occasion to the Poets, to feign a certain monster called *Sphinx*, which they say was thus derived. *Hydra* brought forth the *Chymæra*, *Chymæra* by *Orthus* the *Sphinx*, and the *Nemean Lion*: now this *Orthus* was one of the *Geryons Dogs*. This *Sphinx* they make a treble formed monster, a Maidens face, a Lions legs, and the wings of a Fowl; or as *Ausonius* and *Varinus* say, the face and hand of a Maid, the body of a Dog, the wings of a Bird, the voice of a man, the claws of a Lion, and the tail of a Dragon: and that she kept continually in the *Sphincian* mountain; propounding to all travellers that came that way, an *Ænigma* or Riddle, which was this, *What was the creature that first of all goeth on four legs, afterwards on two, and lastly on three*: and all of them that could not dissolve that Riddle, she presently slew, by taking them and throwing them down headlong from the top of the Rock. At last *Oedipus* came that way and declared the secret, that it was (a Man) who in his infancy creepeth on all four, afterward in youth, goeth upright upon two legs, and last of all in old age, taketh unto him a staffe which maketh him to go as it were on three legs; which the monster hearing, she presently threw down her self from the former rock, and so she ended. Whereupon *Oedipus* is taken for a subtle and wise opener of mysteries.

But the truth is, that when *Cadmus* had married an *Amazonian* woman, called *Sphinx*, and with her came to *Thebes*, and there slew *Draco* their King, and possessed his Kingdom; afterward there was a sister unto *Draco* called *Harmonia*, whom *Cadmus* married, *Sphinx* being yet alive: She in revenge (being assisted by many followers) departed with great store of wealth into the Mountain *SPHINCIUS*, taking with her a great Dog which *Cadmus* held in great account, and there made daily incursions or spoils upon his people: Now *Ænigma* in the *Theban* language, signifieth an inrode or warlike incursion, wherefore the people complained in this sort, *This Grecian Sphinx robbeth us, in setting upon with an Ænigma, but no man knoweth after what manner she maketh this Ænigma*.

Cadmus hereupon made Proclamation, that he would give a very bountifull reward unto him that would kill *Sphinx*, upon which occasion the *CORINTHIAN* *Oedipus* came unto her, being mounted on a swift Courser, and accompanied with some *Thebans* in the night season, slew her. Others say, that

Oedipus



Oedipus by counterteiting friendship, flew her, making shew to be of her faction; and *Pausanias* saith, that the former Riddle was not a Riddle, but an Oracle of *Apollo*, which *Cadmus* had received, whereby his posterity should be inheritors of the *Theban* Kingdom; and whereas *Oedipus*, being the Son of *Laius* a former King of that Countrey, was taught the Oracle in his sleep, he recovered the Kingdom usurped by *Sphinx* his Siter, and afterward unknown, married his own Mother *Jocasta*. But the true moral of this Poetical fiction, is by that learned *Alciarus* in one of his emblems deciphered, that her monstrous treble-formed-shape, signified her lustful pleasure under a Virgins face, her cruel pride under the Lions claws, her winde-driven levity under the Eagles or Birds feathers, and I will conclude with the words of *Suidas* concerning such Monsters, that the *Tritons*, *Sphinges*, and *Centaures*, are the images of those things, which are not to be found within the compasse of the whole world.

Suidas.
Meaning this,
Poetical
Sphinx.

The true *Sphinx* first described, is of a fierce though a tameable nature, and if a man do first of all perceive or discern these natural *Sphinges*, before the beast discern or perceive the man, he shall be safe; but if the beast first descry the man, then is it mortal to the man. These *Sphinges* were of great account for their strangeness: with their image did *Augustus* sign all his Grants, Libels, and Epistles: afterward he left that, and signed with the image of *Alexander* the great, and last of all with his own. *Syclus* the King in the City of the *Boristhenites*, had a fair house, about which there were *Sphinges* and *Gryphins* wrought out of white stone. At *Athens*, in the Temple *Parthenon*, there is described the contention betwixt *Pallas* and *Neptune*, about the earth, and the image of *Pallas* made of Ivory and gold, hath in the midst of her shield the picture of a *Sphinx*. *Amasis* the King of *Egypt*, built in the porch of *Pallas*, an admirable work called *Sai*: where he placed such great *Colosses* and *Andro-Sphinges*, that it was afterward supposed he was buried therein, and was lively to be seen impudible. To conclude, the *Egyptians* in the porches of their Temples painted a *Sphinx*, whereby they insinuated that their divine wisdom was but dark and uncertain, and so covered with fables, that there scarce appeared in it any sparkles or footsteps of verity.

The nature of
the Sphinx.

Suetonius.
The use of
Sphinges.
Herodotus.
Pausanias.

Herodotus.

Of the SAGOIN, called GALEOPITHECUS.



His figure of the *Sagoin*, I received of *Peter Cordenberg*, a very learned Apothecary at *Antwerpe*, who is three times as big as my picture, and *John Cay* that famous English Doctor hath advertised me, that it no way resembleth the *Sagoin* it self, which is not much greater then a Rat,

The quality.

a little Conny, or a young Hedghog: for he had seen several ones of that bigness, of a griffeld colour, a neat beard, and somewhat ash-coloured, a tail like a Rat, but hairy; the feet of a Squirrel, and the face almost like a Martine, or Satyre, a round ear, but very short and open, the hair black at the root, and white at the end, and in other conditions like a Munkey. They are much set by among women, and by the *Brasilians* where they are bred and called *Sagoins*, it being very probable that they are conceived by a small Ape and Weasell, for in that Countrey, by reason of the heat thereof, there are many such unnatural commixtions. It is a nimble, lively, and quick spirited beast, but fearful; it will eat white-bread, Apples, Sweet-grapes, dried in the Sun, Figs or Pears. There was one of them at *Antwerpe* sold for fifty Crowns. In France they call a *Sagoin* a little beast not much bigger then a Squirrel, and not able to endure any cold. Some other affirme that a *Sagoin* is a bearded creature, but without a tail, of an ash-colour, not much bigger then a fist; but of this beast there is not any author writeth more then is already rehearsed.

Colour.
Parts.

Procseation of
Sagoins.
Their meat.
The price of a
Sagoin.

Of the Bear-Ape ARCTOPITHECUS.

There is in *America* a very deformed beast which the inhabitants call *Haut* or *Hauti*, and the *Frenckmen*, *Guenon*, as big as a great *African* Munkey. His belly hangeth very low, his head and face like unto a childs; as may be seen by this lively picture, and being taken it will sigh like a young child. His skin is of an ash-colour, and hairy like a Bear; he hath but three claws on a foot, as long as four fingers, and like the thornes of Privet, whereby he climeth up into the highest trees, and for the most part liveth of the leaves of a certain tree being of an exceeding height, which the *Americans* call *Amahut*, and thereof this beast is called

Thevetus.
Of the name.
His parts.

A secret in
Nature.

led *Haut*. Their tail is about three fingers long, having very little hair thereon; it hath been oftentimes tried, that though it suffer any famine, it will not eat the flesh of a living man; and one of them was given me by a *Frenchman*, which I kept alive six and twenty dayes, and at the last it was killed by Dogs, and in that time when I had set it abroad in the open aire, I observed, that although it often rained, yet was that beast never wet. When it is tame it is very loving to a man, and desirous to climb up to his shoulders, which those naked *Americans* cannot endure, by reason of the sharpness of his claws.



Of the *SIMIULPA*, or *Ape-Fox*.



Pisonius.
Gillius.
The description.

Those which have travelled the Countrey of *Payran*, do affirme, that they have seen a four-footed beast, called in *Latin*, *Simiulpa*, in *Greek*, *Alopecopithecus*, and in *German*, *Fuchssaffe*: in the forepart like a Fox, and in the hinder part like an Ape, except that it had mans feet, and ears like a Bat, and underneath the common belly, there was a skin like a bag or scrip, wherein she keepeth, lodgeth, and carryeth her young ones, untill they are able to provide for themselves, without the help of their dam; neither do they come forth of that receptacle, except it be to suck milk, or sport themselves, so that the same under-belly is her best remedy against the furious Hunters, and other ravening beasts, to preserve her young ones, for she is incredibly swift, running with that carriage as if she had no burthen. It hath a tail like a Munkey: there was one of them with three young Whelps taken and brought into a ship, but the Whelps died quickly: the old one living longer was brought to *Siwill*, and afterward to *Granado*, where the King of *Spain* saw it, which soon after by reason of the change of aire and incertainty of diet, did also pine away and die. The like things doth *Cardan* report of a beast called *Chiurca*, in *Hispania Nova*, and *Stadinus* of a *Suruvoy* in *America*: but I conjecture that the former is this Fox-Ape called in *Greek*, *Alopecopithecus*, and of the *Germans* *Fuchssaffe*, the latter the Female *Cynocephal*, which carryeth her womb wherein lie her young ones without her belly. There is a fish called *Glaucus*, whereof the male swalloweth up all the young ones when they are indangered by other, and afterward yeeldeth them forth again safe and sound.

Aelianus.
A miraculous
thing of a fish.

Of the *ASSE*.

Of the name
and the reasons
thereof.

Varinus.

The *Asse*, is called in *Latin*, *Asinus*, in *Greek*, *Onos* and *Killos*, be reason of his labour in bearing burdens, and of some *Megamucos*, because of his unpleasant voice: Of others *Cochbutous*, or *Canthon*, from whence cometh *Cantharus*, that is, a Scarabee or Flie, bred of the dung of *Asses*. The *Hebrews* call it *Chamor*, *Deut. 5.* and the *Persians*, *Care*, the latter *Hebrews* do indifferently take *Gajedor*, *Tartak*, and *Caar* for an *Asse*; the *Italians*, *L'asino*, the *Spaniards*, *Asno*, the *French*, *Ung ajne*, the *Germans*, *Esel*, *Mul*, *Mulle-resel*, and the *Illyrians*, *Osel*; the which Beast is intituled

intituled or phrated with many Epithets among Poets; as slow, burthen-bearing, back-bearing, vile, cart-drawing, mill-labouring, sluggish, crooked, vulgar, slow-paced, long-eared, blockish, braying, idle, devil-haired, filthy, saddle-bearer, four-foot, unsavoury, and a beast of miserable condition; besides many other such titles in the Greek. Yet this silly beast hath among the Astro-nomers found more favour, for in the sign *Cancer* there are two Stars called the two Asses, placed there as some say, by *Bacchus*, who in his fury which *Juno* laid upon him, travelled to the *Dodanean* Temple of *Apollo* to recover his wits, by the counsel of the Oracle, came to a certain lake of water, over which he could not passe, and meeting there two Asses, took one of them, upon whose back he was safely carried over drie foot. Afterward, when he had recovered his wits, in thankfulness for that good turn, he placed the two Asses amongst the stars.

Epithets of an
Ass.

Pliny.

Asses in celesti-
al signs.

Hyginus.



Howsoever, this may be a fabulous commendation of this beast, yet holy Writ teacheth us, that an Asse saw an Angel, and opened his mouth in reproof of his master *Balaam*: and our most blessed Saviour rode on an Asse to *Jerusalem* to shew his humility: and *Sampson* out of the jaw-bone of an Asse, quenched his thirst. *Apuleius* in his eleven books of his golden Asse, taketh that beast for an Emblem, to note the manners of mankind; how some by youthful pleasures become beasts, and afterward by timely repentant old-age, are reformed men again: Some are in their lives Wolves; some Foxes, some Swine, some Asses, and so other may be compared to other beasts: and as *Ori-gen* saith, only by pleasure is a man a horse or Mule, when a beastly soul liveth in a humane shape. This world is unto them as an enchanted cup of *Circet*, wherein they drink up a portion of oblivion, error and ignorance; afterwards brutizing in their whole life, till they taste the Roses of true science and grace, inlightning their minds, which is their new recovery of humane wit, life, and understanding.

Morals of the
discourses of
Asses.

Proclus.

Beroaldus.

Asses are bred in *Arcadia*, wherefore proverbially, the best Asses are signified by the *Arcadian* Asse, and the greatest Asses by the *Arcadian* Asse. In *Timochain* in *Persia*, are very beautiful Asses, whereof one hath been sold for thirty pounds of silver. Likewise in *Rea*, in *Italy*, in *Illyria*, *Thracia*, and *Epirus*, there are Asses, but very small ones, although all other Cattel there are very large. In *India* among the *Psilians*, they are no greater then Rams, and generally all their Cattel are of a very small growth. In *Scythia*, *Pontus*, *Celta*, and the regions confining them, are no Asses bred, by reason of extremity of cold, for Asses are very impatient of cold. In *Mysia* there are also asses; but their flanks are crooked, and indented as if they were broken; whereupon a proverbial common speech ariseth (one having a broken flanke) for a *Mysian* Asse.

Countrys
breeding Asses.
Paul. Venet.
Pondera.

Eliaius.

Asses are ingendred both by their own kind, and also by horses, for they chose stallions and put them to their Asses, who have large bodies, well-set legs, strong necks, broad and strong ribs, brawny and high creasts, thighs full of sinews, and of black or flea-bitten colour (for a Mouse-colour is not approved) wherefore he that will have a good flock of Asses, must look that the male and female be found, and of a good age, that they may breed long time, and out of a good Seminary, as of *Arcadia* or *Rea*; for as the best Lampreyes are in *Sicilia*, and the delicate fish *Helops* in *Rhodes* and

Their breed.

Palladius.

- not elsewhere; so are best Asses in those forenamed places. When they make choice of a Stallion, they look principally that he have a great head. An Ass is more desirous of copulation than an Horse, and both male and female do couple at thirty moneths, although it prove not untill three years, or three and a half. Men say that *Anna* the father-in-law of *Ela*, did first invent the copulation of Horses and Asses together; for as a Horse doth cover a she Ass, so an Ass will cover a Mare, and an Ass will sooner fill the lust of a Mare than a Horse.
- Abstrus.** If a Horse cover a female Ass which hath been entred by a male Ass, he cannot alter the seed of the Ass: but if an Ass cover a Mare which a Horse hath formerly entred, he will destroy the seed of the Horse, so that the Mare shall suffer abortment, by reason that the seed genital of an Ass is more frigid, than an Horses. The Mares of *Ela* cannot at all conceive by Asses copulation, and there is more abortments falleth out by commixtion of Horses with Asses, or Asses with Mares, then when every kind mingleth amongst themselves. It is but a superstition of some, which affirme that an Ass cannot conceive for so many years, as she hath eaten grains of Barly corn defiled with womens purgation; but this is certain, that if an Ass conceive not at the first losing of her teeth, she remaineth barren. They are not coupled in generation in the Spring *Æquinoctium*, like Mares and other beasts; but in the Summer *Solstice*, by reason of their cold natures, that they may bring forth their young ones about the same time, for in the twelfth moneth after their copulation, they render their Foles. If the males be kept from labour they are the worse for generation, wherefore they are not to be suffered idle at that time; but it is not so with the female, she must rest, that the Fole may be the stronger: but presently after she is covered, she must be coursed and driven to and fro, or else she will cast forth again the received seed.
- Pliny.** The time that she goeth with young, is according to the male kind by which she is covered, for so long as the male lay in the belly of his dam, so long will the Ass carry her young before deliverance: but in the stature of body, strength, and beauty, the young one taketh more after the female than the male. The best kind of Asses are the Foles of a wild Ass and a tame female Ass. They use when an Ass is foaled, to take it from the dam, and put it to suck a Mare, that it may be the greater, which Fole is called *Hippobela*, that is, a Horse-suckling; and Mares will not be covered by Asses, except by such a one as was a horse-suckling. A she Ass will engender till she be thirty years old, which is her whole life long, but if she conceive often, she will quickly be barren; whereof their keepers must take such care, that they cause them to be kept from often copulation.
- They will not Fole in the sight of man, or in the light, but in darkness; they bring forth but one a time, for it hath not been heard of in the life of man, that an Ass hath ever brought forth twins. As soon as they are conceived they have milk in their udders, but some hold not untill the tenth moneth. They love their young ones very tenderly, for they will run through fire to come at them, but if there be any water betwixt them, it cooleth their affections; for of all things they love not to wet their feet. They will drive their young ones from sucking at the sixth moneth, because of the pain in their udders, but their keepers wean them not till a whole year after their foaling. Their milk is so thick that it is used in stead of fodder: a Mares is more thin, and a Camels is thinnest of all. It is mortal to their young ones to tast the dams milk for two dayes after their foaling, for the food is so fat that it breedeth in their mouthes the *Colostracion* or *Beestings*.
- Ælianus.** Touching their several parts, they have teeth on either chap like a Man and a Horse, an Ass and a Mule have 36 teeth, and joynd neer together: the bloud of Asses and Buls is the thickest of all other, as the bloud of man is the thinnest: His head is great and his ears long and broad: both male and female lose their fore-teeth in the thirtieth moneth of their age, and the second to the first, in the sixth moneth; their third and fourth teeth are called *Gnomons*, that is, *Regulars*, because by them there is a tryed rule to know their age; and those teeth also they lose in the sixth moneth. The heart of an Ass is great, as all other fearful beasts have. The belly is uniform as in other beasts that have a solid or whole hoof. It wanteth a gall, and hath two udders betwixt the thighs, the forepart of the back neer the shoulder is weakest, and there appeareth the figure of a Crosse, and the hinder part neer the loins is stronger. The hoofs are whole and not parted: the *Stygian* water is so cold that nothing can hold it, except the hoof of an Ass or Mule; although *Ælianus* affirme, that it cannot be contained but in the horns of *Scythian* Asses. Their tails are longer by one joint then a horses (though not so hairy). They are purged with monethly courses more then Sheep or Goats, and the urine of the female is more thin then the males. If an Ass was hindered by any disease from making water, certain superstitious persons for the ease of the beast, muttered this charm: *Gallus bibit & non meit, Myoxus meit & non bibit*: that is, *The Cock drinketh and maketh not water, The Dormouse maketh water and never drinketh.*
- Snidas.** They will eat Canes or Reeds, which to other beasts is almost poison: wherefore in the old time an Ass was dedicated to *Bacchus* as the Canes were sacred unto him: and at the time of their copulation they give them herb *Basil* to stir up their lust: They will be satisfied with any never so base food, as chaffe, whereof there is abundance in every Countrey, young thornes and fruits of trees, twigs of Osier, or a bundle of boughs to browle upon: in so much as *Q. Hortensius* was wont to say, that he had more care that his Barbels should not hunger in his fish-pools, then his Asses in *Roseta*: but the young ones newly weaned must be more tendered, for they must be fed with hay, chaffe or Barley, green corn, or barley bran. Asses will hardly drink but at watering places in their folds, or such as they have been accustomed withall, and where they may drink without wetting their
- Pliny.** *Philomon* died with laughing when he saw an asse eat figs.
- Val. Marc.**

their feet; and that which is more strange, they cannot be brought to go over hollow bridges, through which the water appeareth in the chinks of the planks; and when in travail they are very thirsty, they must be unladen and constrained to drink; yea, *Herodotus* reporteth, that there are certain Asses among the *African* shepherds, which never drink. When they sleep they lie at length, and in their sleep conceive many forceable dreams, as appeareth by their often beating back their hinder legs, which if they strike not against the vain aire but against some harder substance, they are for ever utterly lamed.

When the Asses of *Thuscia* have eaten Hemlock, or an herb much like unto it, they sleep so long and strangely, that oftentimes the Countrey men begin to flea them, and on the suddain their skins half taken off and the other half on, they awake, braying in such horrible manner, that the poor men are most dreadfully affrighted therewith. Their voice is very rude and fearful, as the Poet said;

Quirritat verres, tardas rudis, uncat assellus.

And therefore the *Grecians* to expresse the same, have devised many new words, and call it *Ogethmos*, as the *Latins*, *Rudere*; that is, to utter forth a voice in a base and rude manner. The Poets feign, that at that time when *Jupiter* came to war with the *Gyants*, *Bacchus* and *Vulcan*, the *Satyres* and *Sileni* assisted and attended him, being carryed upon Asses. When the time came that the battell began, the Asses for very fear brayed most horribly, whereat the *Gyants* not being acquainted with such strange and unknown voices and cries, took them to their heels and so were overcome.

In the sacrifice of the Goddess *Vacuna*, an Ass was feasted with bread, and crowned with flowers, hung with rich Jewels and Peytrels, because (as they say) when *Priapus* would have ravished *Vesta* being asleep, she was suddenly awaked by the braying of an Ass, and so escaped that infamy. And the *Lampaceni* in the disgrace of *Priapus* did offer him an Ass. But this is accounted certain, that among the *Scythians*, by reason of cold, an Ass is never heard or seen; and therefore when the *Scythians* set upon the *Persians*, their Horses will not abide the braying of Asses, wondring both at the strangeness of an Asses shape, and rudeness of his cry: wherefore there are certain birds, resembling in their chattering the braying of Asses, and are therefore termed *Onacratuli*.

When an Ass dyeth, out of his body are ingendred certain Flies, called *Scarabees*. They are infested with the same diseases that Horses be, and also cured by the same meanes (except in letting of blood) for by reason their veins be small and their bodies cold, in no case must any blood be taken from them.

Asses are subject to madness when they have tasted to certain herbs growing neer *Pomus*; as are Bears, Horses, Leopards and Wolves: they only among all other hairy beasts are not troubled with either ticks or lice, but principally they perish by a swelling about the crown of their pasterne, or by a Catarrhe called *Malis*, which falling down upon their liver they die, but if it purge out of their nostrils they shall be safe: and *Columella* writeth, that if sheep be stabled where Mules or Asses have been housed, they will incur the scab. There is great use made of the skins of Asses, for the *Germanes* do make thereof a substance to paint and write upon, which is called *Eselshut*. The *Arabians* have a cloth called *Misha*, made of Asses and Goates hair, whereof the inhabitants of their deserts make them tents and sacks. It is reported that *Empedocles* was called *Colysancus*, because when the *Agrigentine*s were troubled with winds by hanging about their City innumerable Ass skins, he safeguarded them from the winds: whereupon some have thought (but fallly) that there was some secret in Asses skins, against outrageous Tempestes.

The bones of Asses have been used for pipes, the Artificers made more reckoning of them then of the bones of Harts; and therefore *Esop* in *Plutarch* wondereth that so grosse and dull a creature, should have such shrill and musical bones; and the *Busriles* called the Philosophers *Naucratides*, because they played musick upon Asses bones, for they cannot abide the sound of a trumpet, because it resembleth the voice of an Ass, who is very hateful to them for *Typhons* sake.

Mecenus allowed the flesh of young Asses to be eaten, preferring it before the flesh of wilde Asses, and this custome also prevailed at *Athen*, where they did eat the flesh of old Asses, which hurteth the stomach, having in it no good juice or sweetness, and is very hard to be digested. In like sort about the coasts of *Alexandria*, men use to eat the flesh of Asses, which begetting in their body much melancholick and adusted humor, causeth them to fall into the *Elephantia* or spotted leprosie.

Asses are tamed at three years old, and taught for those businesses which they must be applied unto; some for the mill, some for husbandry and the plough, some for burthens and carriage, some for the wars, and some for draught. Merchants use Asses to carry their wine, oil, corn, and other things to the sea-side, wherefore the Countrey man maketh principal account of this beast for his carriage to and fro, being fit to carry both on his neck and on his back: with them they go to market with their wares, and upon them bring home their household necessities.

Mathaeus.

Erastorbenes.

Ovid.

Laetantius.

A good horse-leach is a good Ass-leach.

Vegetius.

Pliny.

Galenus.

Columella.

Terna.

—Tardè costas agitator aselli,
Vilibus aut onerat pomis, lapidemq; revertens,
Incussum, aut atræ massam picis urbe reportat.

Pliny.

Mulus, equus, asinus
ferie nullæ
nisi, si in familiâ
sunt.

Ad hæc vehi-
cula non nimio
pondere trahit.

Strabo.

Ælianus.

Suidas.

Anatolius.

Hinc caput Ar-
cadici nudum
cute feritur
aselli,
Tirrenus fixis
se Tages in li-
mite ruri.

Suidas.

Leo Afric.

Ælianus.

Ælianus.

They grind in their mills and fetch home their corn, they plough their land, as in *Campania*, *Lybia*, and *Bætia*, where the ground is soft, and in *Byzantium* that fruitful Countrey, which repayeth the husbandmans labor with increase of an hundred and fifty times more then the seed, and where in drie weather their ground is not arable with the whole strength of Bulls, yet after a little rain, one Asse in one end of a yoke, and an old woman at the other end, do easily draw the plough, and open the earth to sow their seed: wherefore *Cato* said merrily, that Mules, Horses and Asses, keep no holy-dayes, except they be such Asses as keep within doors. In like sort they draw from place to place the carts of Bakers, or Carts laden with any other carriage, if it be not over great.

The people *Carmani* (by reason they want Horses) use Asses in their wars, so also do the *Scaracori*, who never use them in mills or any such base works, but upon them undertake all their martial perils. There was a custome amongst the *Cumani*, that when a Woman was taken in Adultery, she was led to the Market, and there set upon a bare stone, afterwards she was set upon a bare Asses back, and so carried throughout the City, then brought back again to the former stone for a publick spectacle to all the City, whereby she remained infamous all her life after, and was called *Onobatis*, that is, one that had ridden an Asse; and the stone whereupon she stood, was accounted an unlucky, and an odious place for all posterity. In like sort among the *Parthians*, it was held a disgraceful thing to ride or be carried upon a bare Asses back. The dung of Asses is pretious for a garden, especially for Cabages; and if an Apple tree be dying, it may be recovered by washing it in Asses dung by the space of six dayes; and some have used to put into Gardens the skull of a Mare or she Asse that hath been covered in copulation, with perswasion that the Gardens will be the more fruitful.

Asses are of very foolish conditions and slender capacity, but yet very tame, not refusing any manner of burthen although it break his back: being loaded, it will not out of the way for any man or beast, and it only understandeth the voice of that man, with whom it is laboured, knowing also the way whereunto it is accustomed. *Ammonianus* was in such love with an Asse, and holding him of so great a capacity, that he had one continually to hear his Lectures of Philosophie. *Galen* affirmeth, that an Asse understandeth genus, species & individuum, because if you shew him a Camell that never saw one before, he is terrified and cannot indure his sight: but if he have been accustomed to such a sight, if you shew him never so many, he is not moved at them. In like sort, he knoweth men in general, being not affraid of them, but if he see or hear his keeper, he knoweth him for his keeper or master.

There was a cunning player in *Africa*, in a City called *Alcair*, who taught an Asse divers strange tricks or feats; for in a publick spectacle, turning to his Asse (being on a scaffold to shew sport) said, The great *Sultan* purposeth to build him an house, and shall need all the Asses of *Alcair* to fetch and carry wood, stones, lime, and other necessaries for that business; presently the Asse faileth down turneth up his heels into the air, groneth, and shutteth his eyes fast, as if he had been dead: while he lay thus, the Player desired the beholders to consider his estate, for his Asse was dead; he was a poor man, and therefore moved them to give him money to buy another Asse. In the mean time having gotten as much money as he could, he told the people he was not dead, but knowing his masters poverty, counterfeited in that manner, whereby he might get money to buy him provender, and therefore he turned again to his Asse and bid him arise, but he stirred not at all. Then did he strike and beat him sore (as it seemed) to make him arise, but all in vain, the Asse lay still.

Then said the player again, our *Sultan* hath commanded that to morrow there be a great triumph without the City, and that all the noble women shall ride thither upon the fairest Asses, and this night they must be fed with Oates, and have the best water of *Nilus* to drink. At the hearing whereof, up started the Asse, snorting and leaping for joy: then said the Player, the Governor of this Town hath desired me to lend him this my Asse for his old deformed wife to ride upon; at which words the Asse hangeth down his ears, and understanding like a reasonable creature, began to halt as if his leg had been out of joint; why, but said the Player, had thou lister carry a fair young Woman? The Asse wagged his head in token of consent to that bargain, go then (said the player) and among all these fair Women, chuse one that thou mayest carry; then the Asse looketh round about the Assembly, and at last went to a sober woman and touched her with his nose, whereat the residue wondered and laughed, shutting up the sport, with crying out, *An Asses Woman, An Asses Woman*, and so the Player went unto another Town.

Such things do serve to teach us that Asses are not altogether indocible, besides in their own nature they know how to refresh themselves in their weariness, by wallowing on the ground, and being overcome with melancholy humor, they naturally look for the hearb *Ceterach* or *Finger-fearne* to cure them. When the Asses of *Maurusium* are bound to a journey, they set forward so fast, that a man would think they rather flew then ran; but being overwearyed they are so abased, that they send forth tears, and then are they drawn at Horses tails to their journeys end.

The Asse is never at peace with the Crow, because it longeth for the Asses eyes, likewise the bird *Salem*, for when the Asse cometh to the thornes, to rub himself where the said bird buildeth her nest,

nest, the Asse spoileth it, wherefore the said bird maketh continual assault upon him. In like sort the *Colota* or *Stellio*, for it sleepeeth in the mangers, and creepeth up into the Asses nose to hinder him from eating.

The Wolf is also an enemy to the Asse, for he loveth his flesh, and with small force doth he compass the destruction of an Asse, for the blockish Asse when he seeth a Wolf, layeth his head on his side, that so he might not see, thinking that because he seeth not the Wolfe, the Wolfe cannot see him; but the Wolfe upon this advantage setteth upon the beast on the blind side, and easily destroyeth the courageles Asse. Another argument of an Asses stupidity, is that he careth not for his own life, but will with quietness starve, if meat be not laid before him. Wherefore it is apparent that when a dull Scholar not apt to learn, is bid to sell an Asse to signifie his blockishness, is no vain sentence; therefore they which resemble Asses in their head, round forehead, or great face, are said to be blockish; in their fleshy face, fearful; in broad or great eyes, simple; and like to be mad in thick lips, and the upper hanging over the neather, Fools; and in their voice, contumelious and disdainful. To conclude, the ancients have made many significations of Asses and their shapes, making a man with an Asses head to signifie; First, one ignorant of manners, histories, and Countreys. Secondly, immoderate riot of stubborn persons in Scripture is deciphered in an Asse. Thirdly, impudency and shamelesness, because an Asse will not for any stripes forsake his own wayes. Fourthly, the *Jewish* people, who like Asses could not understand the evident truth of Christ in the plain text of Scripture, wherefore our Saviour secretly upbraided their dulness, when he rode upon an Asse. Fifthly, the *Egyptians* by an Asse, noted a man without all divine knowledge; wherefore they used to take an Asse and follow him with all despight, beating him from place to place till he brake his own neck; for they believed that an Asse was possessed of a Devil. Sixthly, Indocibility, by an Asse bridled. Seventhly, the snares of flatterers; for their Priests set an Asse between flowers and ointments, neither of both partaining to an Asses skill; teaching thereby how mighty men fall by treachery of flatterers. Eightly, a Woman dissembling her Pregnancy. Ninthly, by a man weaving a cord, and an Asse behind him biting it asunder; they signifie, a painful husband and a prodigal wife. Tenthly, a good Vine-dresser, for when an Asse did bite of the branch of a vine, it was observed that the next year the Vine was more fruitful. Finally, base servility, trifling sluggishness, good fortune, Tyrants, and fools, are Hieroglyphically comprized under the discourse of Asses.

Touching such medicinal vertues as have been tried and found to be in the several parts of Asses, by learned and approved writers, now in the conclusion of this History they shall be briefly remembered, and so this Narration be finished.

A draught or two of the same water whereof an Asse or an Oxe hath drunk, will ease the headache, the forehead of an Asse tied to the flesh of one that hath the falling evill, cureth him; and the brain of an Asse steeped in sweet water and infused in leaves, whereof taken for certain days, half an ounce, easeth the falling evill: the number of which dayes cannot be less then thirty, but this is very ridiculous, that if a man hurt by a Scorpion, do whisper his harme in the ear of an Asse, presently the hurt ceaseth. When one is vexed with a Quotidian Fever, with three drops of blood out of the vein of an Asses ear, put into eighteen ounces of water and drunk by the patient, easeth that pain.

The liver of an Asse burnt, driveth away venomd things, and the same dried and beat to powder, helpeth the Cough and shortness of breath, and roasted to be eaten, if it be eaten fasting it is against the falling evill. Other say, if it be mixed with *Opponax*, and instilled into the mouth forty days together, defendeth infants from the aforesaid sickness. Also the heart of a male black Asse, eaten with bread at the evening, in the first or second day of the Moon, is good against the falling evill. The liver dried with Parsely, and three Walnuts clesned from the pill and put into hony, is marvellous good for one that is liver sick; the ashes of it mixt with oil, taketh away Wens; and the ashes of the liver and the flesh is good against the chapping, clefts, or slifters in the body, which come by cold: but *Dioscorides*, whom I rather follow, attributeth both these virtues to the ashes of the hoof. He that is sick of the milt, may be holpt with the old milt of an Asse, if he eat thereof every day dried and fasting, he shall find ease by it within three days. The same first dried and then steeped in water, maketh the dugs full of milk, so also doth the Spleen, and the Spleen with sewer of a Bear, and oil made as thick as hony, by anointing the eye-lids therewith, restoreth the hairs which are wanting. The reins exenterated, bruised and put into new pure wine, do help the bladder, and stay the incontineny of the Urine. The same dried, burned, and beaten into very small powder, whereof a nut shell full put into two cups of pure wine and drunk off, cureth the Strangury.

It is thought, that with the powder of the Asses genital, the hair may be made grow thicker: and the same beaten with lead and oil, and anointing the head where gray hairs are shaven off, keepeth from more gray hairs. The stones of an Asse kept in salt and sprinkled in a potion of Asses milk or Water, helpeth the falling evill. The Gall of an Asse or a Bull, either of them, severally broke into Water, taketh away the spots in the face, if after the patients skin be pilled, he must keep himself from sun and wind.

The blood of an Asse stayeth the flux of blood coming from the skin or films of the brain; and two or three drops of the same drunk with wine, cureth the Quotidian Fever: the self same thing is reported of the blood let out of the vein in the ear. The blood of the Fole of an Asse with wine, cureth

Ælian.

Aristotle.

Marcellus.

Pliny.

Pliny.

Haly.

Pliny.

Marcellus.

Avicen.

Sextus.

Rasis.

Marcellus.

Pliny.

Esculapins.

Pliny.

Dioscorides. cureth the Kings evil. The froath or scum of Nitre with the fat of an Asse or the fat of a Sow, cureth the bitings of Dogs: and if there be any scars in the body, the fat maketh them of the same colour with the residue of the body. And if one vexed with the Falling evill, be annointed with the suet or fat of an Asse, it will ease them very much; likewise the marrow of Asses helpeth the Scabs from a man, and with the suet the places infected with Catarrhs, Leprosies, or Scars, receive their former colour; and the skin laid upon young Infants, maketh them without fear. And if the bill of a Heron wrapped in an Asses skin, be bound to ones forehead, it provoketh sleep.

A Palsie man will fall down if he taste of the perfume made of the hairs of an Asse or Mule. The ashes of the hairs of Asses, stayeth bleeding; and the same hath the more force if they be of a male, and be mixed with Vinegar and laid in wooll to the issue bleeding. The bones of an Asse broken and sod, are very soveraign against the venom of a Sea-hair-fish. The powder of an Asses hoof drunk a moneth together, two spoonfuls at a time, helpeth the Falling evill very greatly: and the same mixed with oil, helpeth the Kings evill; and being put upon Kibes or Chil-blaines, cureth them. The hoofs of Asses burned and beaten to powder, given to them that have the Falling evill in drink, helpeth them speedily; also a burned hoof is mingled with many medicines, to cure the swelling of the Navel in children; and the hoofs perfumed procure speedy deliverance in travel of young, that the dead thing may come forth, otherwise it is not used, for it will kill the living young ones.

The dust thereof with the milk of an Asse, by annointing cureth the Scars and Webs of the eyes, and as *Marcellus* saith, only the parings of an Asses hoof scraped and mingled with a womans milk; and they say, that if an *Epileptick* man wear a ring made of an Asses hoof wherein is no blackness, it will preserve him from falling. The powder of an Asses hoof burned and beaten, laid in Vinegar and made in little bals, and one of them put into the mouth and there held, helpeth the looseness and pain in the teeth. There is a collection of certain hard matter about an Asses legs, called *Lichen*, which if it be burned and beaten, and put into old oil, will cause hairs to grow out of baldness, and it is of such force, that if it be applied to a womans cheek, it will produce the same effect, and mingled with Vinegar it raiseth up the *Lethargike* man.

And if a man take the Ring-wormes growing naturally on Asses legs, and shredding them into powder put them in Vinegar, it stayeth all pain in the head, which maketh one sleepey. The flesh of Asses sod in pottage helpeth them that have the *Phthisis* or disease of the Lungs, and there are some which prescribe the taking of Asses flesh, or the blood of Asses mingled with Vinegar, to be taken forty days together against the falling evill. The milk of an Asse mingled with hony and drunk, loosneth the belly, and therefore *Hippocrates* gave it for a gentle purgation, being moister then any other kind of milk, and fitter to take down the belly. It will also ease the tooth-ach, if the teeth be washed in it, and fasten them that are loose, being very good to wash the teeth withal. *Galen* gave Asses milk mixt with hony, to one in a Consumption when he came newly from a bath, and therefore it is given in Fevers *Hedicks*, and all consuming diseases, because the substance of it is fitter for deterfion then nutriment: when the breasts are in pain, by drinking Asses milk they be holpt; and the same mingled with hony, causeth Womens purgation; by drinking Asses milk, an exulcerate stomach is relieved: likewise all other pains in the stomach, which come of sadness or sorrow, sighing, and desperation: and *Heracides* gave Asses milk with Anniseed to one that had his lights stopped, and it is likewise commended against the Cough, extenuation, spitting of blood, Dropsie, and hardness of the Spleen, but it is not good for a weak head troubled with giddiness or noise, yet will it loosen the hardness of the belly in a Fever.

It is also privately used against eating of Morture, White-lead, Sulphur, and Quicksilver; and when a mans meat doth not neither nourish nor digest, let him drink Asses milk safely: and it is also good to gargarize in sore chaps or throats. Likewise in a Fever when there is no head-ache. The ancient in old time gave Asses milk to children before meat, and for want thereof Goats milk; for sore mouthes it must be gargarized. It is very profitable against the Colick and Blondy-flux, if hony be put thereto; looseness or desire of stool is taken away by drinking Asses milk: the whay or milk of an Asse did *Hippocrates* prescribe against the Consumption of the reins or back; and the same with the root of a pomgranat against the looseness and other diseases of the belly to be drunk.

Also there are examples where the whay of Asses milk have helped the Gowt, both in hand and foot: sweet water with Asses milk is wholesome against poison of Hen-bane, and other poisons, but it must be used new, or else soon after warmed: This milk will make womens skins whiter, wherefore *Poppea*, the wife of *Domitius Nero* carryed about with her in her progress fifty milch Asses, wherewith she did use to bath her self.

The Urine with the own dung, healeth straight shooing, scabs in a man, and the roughness of the nails. It taketh away the scurfie of Oxen. It is given in drink, to cure them that have ache in their reins, and with *Pepper-wort* it is profitable against Suppurations and Apostems in the flesh. If any be hurt by the Stars, wash them in Asses stale, mingled with *Spiknard*: the same force hath it against cornes and all hardness or thickness of skin. The dung of Asses new with oil of Roses, distilled warme into the ears, helpeth deafness; and pushes or suddain boills of the head, are cured with the juice of Asses dung, and of Sea-onions beat to powder, and the fat of beef, layed to the boills like a plaister: both the dung of Asses and Horses either raw or burnt mingled with Vinegar, restraineth bleeding both in Fluxes and Wounds, used like a plaister, being new and mingled with Vinegar; and for

for the bleeding at the nose, snuffe in the ashes of Asses dung burnt to powder. The dung *Aetius.* of Asses cureth the Piles, and the same dried and moistened in wine being drunk of Cattel which are stung with Scorpions, cureth them if it be at grasse; and it is found true by long experience, that the dung of an Asse rubbed, in quantity two spoonfuls, and taken every day, delivereth one from the falling evill.

*mitis prodest ex ubere succus aselle,
Si tepido vino infundus ac mella piperque.*

This is good against the gall and running over thereof, if it be mingled with warm wine, pepper, and hony. The *Syrians* call the dung of a young Fole which it first casteth up after the foling, *Polean*; and give it against the sickness of the milt.

In sapa decoctum colo magnopere prodest.

The same is good against the Colick and the Bloody-flux. The juice of Asses dung, Asses milk, and sweet wine, anointed on the sick member, cureth the Gowt: and the same stayeth the flowres of women with child; the juice hereof cureth the closing up of the eyes in the night. The skin wherein the young Fole lyeth in the dams belly being smelled unto by him that hath the Falling evill, it easeth him. *Anaxilaus* hath reported, that if the excrements of a Mares copulation be burned, there will appear monstrous shapes of Horses heads. If a Horse have a web in his eye, mingle together the milk of an Asse, the blood of a Dove, and the dew of Cabages, and anoint him therewith: and there be some which take of the dirt where an Asse hath made water in the way, and therewith anoint the Scabs of sheep for their recovery: but when one is stricken with a Scorpion, the Asses dung must be presently applied, or else it profiteth nothing in that malady.

Of the Hinnus, Innus, and Ginnus, Mannus, mannulus, Besi & Burdones, &c.

There is no language besides the *Greek* that have any words to express these Beasts, and the *Latins* have derived these termes from them. These are beasts of a small size, as dwarfs among men, and therefore seldom seen in these parts of the world. They which are called *Hinni*, are conceived of a Horse, and a she Asse, who although they take their denomination from the male, yet do they more resemble the female. In ancient time, the males which were conceived of a Horse and a she Asse, were called *Hinnuli*, and likewise of an Asse and a Mare, *Muli*; so are the young ones of little Goats, Deer, Hares, and other like: although some take *Innuli* for the young Harts, and the *Hinni* and *Hinnuli* for the breed of a Horse and an Asse; so that there appeareth two kinds, and both of them transplanted out of other. *Celius Rhod. Columella. Pliny. Hermolaus. Varro.*

The *Hinnus* is lesse then the Mule, but more ruddy, having ears like a Horse, and a mane and tail like an Asse, lying in the womb before the foling twelve moneths like a Horse, and are brought up like little Horses, whose age is discerned by their teeth, and they are sometimes procreated of a Horse and a Mule, and because of their aptness to beare, they are called *Burdones*, or else of *Bardus* by reason of their folly and slowness. *Nonius. Perot.*

Manni and *Mannuli* are very little low horses, being very gentle and easie to be handled, being called also among the *Civilians*, *Burdi*. There is in *France*, not far from *Gratignonopolis*, a kind of Mules which in the Countrey speech are called *Lumar*, being bred of an Asse and a Bull, and in the *Helvetian* Alpes beyond *Curia*, about the Town *Speluga*, I have been sincerely informed, that there was a Horse conceived of a Bull and a Mare, and therefore *Scaliger* saith, that such a fole is called *Hinnulus*, whereof he reporteth he had seen many, and he himself had two of them, and at that instant had only one female, betwixt whose ears there were two bony bunches about the bigness of half a Wal-nut, giving evident testimony by the forehead, that her father or Syre was a Bull: and some say that this kind want their upper teeth: and their underchap doth in a deformed manner stretch forth it self beyond the upper, as it is in many fishes, being called of the *Gabala* and *Arverni*, *Besi*: And at this day there is in the Court of *France* a certain beast which in the former part is like an Asse, and in the hinder a Sheep. In *Ferraria* among other strange beasts, they nourish dwarfish Asses, of whom *Martial* made a *Distichon* to this effect, that they are not so high as a man, when he sitteth on the ground. *Porphyrus. Avergne & Lodove Navet.*

*His tibi de mulis non est metuenda ruina:
Altius in terris pene sedere soles.*

For the *Innus*, and *Ginnus*, or *Hinnus*, they are conceived by a Mule and a Mare, which are very small by reason of some disease the dam that beareth them hath in her belly: the word *Inis* signifying a young or new born Nephew, and is attributed to this kind of beasts, because they never exceed the quantity of a young fole. Both the Mule and the *Burdo* remain barren and never conceive, these neigh like a Horse, and that brayeth like an Asse. A *Musimon* is a short Horse, Asse, or Mule. *Abertus. Promptuar.*

Of the Wild Asse.

A Wild Asse, called of the Latins, *Onager*; of the Hebrews, *Arod* and *Ere*, and as *Sebastian Munster* affirmeth, *Meroda* and *Arda*; in the German tongue it may be termed *Ein Waldefell*, and the young ones are called *Lalifions*.

Martial.

*Dum tener est Onager, solaque lalifio matre
Pascitur: hoc infans, sed breve nomen habet.*

Country of
breed.

These wild Asses are not *Elks*, as some have reported of *Elks*, nor that *Oryx* which the ancient writers do constantly affirm to live in a continual thirst, as for the most part wild Asses do. Of these Asses are great store in *Phrygia*, *Lycania*, and *Africa*, and it is said, that the *Saracen* King of *Tunis* in *Africk*, sent unto *Ferdinand* King of *Naples*, a goodly great wild Asse, such an one as hath not been seen in this part of the world.

Pliny.

Apollonius affirmeth, that he saw wild Asses in great plenty beyond *Catadupa* in *Egypt*; so are there many in *Canda*, an Island neer *Cret*: in *Persia*, in *Asia*, in *Madera*, and *Abasia*, *Arabia* desert, *Mauritania*, and *Armenia*. *Callistus* reporteth that there are such wild Asses in that region under the *Equinoctial* towards the East and South, of wonderful stature, their skins (beside the usual manner) being of divers colours, interlined variably with white and black, and the Zones and strakes descending from the top of the back unto the sides, and there divided by their winding and turning, make the soles appear of admirable variety.

Their copulation.

These Asses love the highest Mountains and rocks, as holy Scripture teacheth, *Jer. 14. The Asses stood in the high places and drew in the wind like Dragons*: which words gave occasion to some to imagine, that wild Asses would quench their thirst with the wind without water; whereas it is the manner of all wild beasts, in extremity of thirst, to gape wide and greedily draw in the cold refreshing air, and they will not drink but of pure fountain water. They live in flocks and great companies together, but in desolate places: the males going before the females, and commonly one male will lead and rule the whole flock of females, being exceeding swift, and fearful, and therefore do they often change their places of abode; and yet it is observed, that the wild Asses of *Licia* never go over the mountain that divideth them from *Cappadocia*.

They engender among themselves, their females being much more lustfull then the males, and therefore do the males observe and watch them with a jealous eye toward their own soles, especially after they have conceived; and the female as warily avoideth the sight of the male, especially at the time of her foaling; for if she bring forth a female, the male receiveth it with all love, joy, and welcome; but if a male, then doth he with angry and envious countenance look upon it, taking it heavily that another male is bred, which in time may in the fathers place possess his dam; wherefore in a raging madness he falleth upon the sole, seeking by all his power to bite off his stones; the poor female although weakned with pain of delivery, yet helpeth her young one against the fathers rage, and like a Mother who seeing her Son slain in war, embraceth his bleeding corps, and cryeth out with doleful voice, tearing her cheeks and bleeding betwixt her breasts: so would you think this silly female Asse, to mourn for her sole, now ready to die by the Sires cruelty; saying, *O my husband why is thy aspect so ireful? Why are thy eyes now become so bloody, which even now were as white as light? Dost thou look upon the face of that monster Medusa? which turneth men into stones; or dost thou look upon some new hatched horrible Dragon, or the whelp of some Lion lately littered? Why wilt thou geld this our young one which nature hath given unto us both by procreation? O wretched beast that I am, which have conceived an unhappy sole by the fathers wickedness! O my poor and unhappy son, which for a jealous fear art deprived of thy natural parts, not by the claws of Lions (for that I would endure), but by the unnatural and more then hostile teeth of thy own father.*

These wild Asses have good and strong hoofs, their swiftness is compared to the wind, and in the time that they are hunted, they cast backward with their heels stones with such violence, as they pierce the breasts of them that prosecute them if they be not very wary. They are of a large, broad, tall and beautiful body; long ears, and a silver colour, (that is as I ghesse) a bright cloud-colour, for it is but vain to imagine, that an Asse can be all white, for then were all the ancients deceived, which with one voice affirm, that he hath a black list on the back, at either side whereof are two white lines.

Ælianus.
Albertus.
Oppianus.
Varro.

Ælianus.

Their food is only grasse and herbs of the earth, whereby they grow very fat, their heart being the fattest part of their body, and they will not abide any flesh-eating beast, especially the Lion whom he feareth very much, for all these strong beasts devour and eat them. These Asses are very fit for civil uses, as for plowing and sowing, for being tamed they never grow wild again, as other beasts will, and they easily grow tame. It is observed, that the same being tamed, is most tame which before time was most wild. They love figs and meal above all things, wherefore the *Armenians* use to take a certain black fish bred in their waters which is poison, and covering it with meal the wild Asses come and lick thereof, and so are destroyed. The best of them are generated of a Mare and a wild Asse tamed, for they are the swiftest in course, of hardest hoof, a lean body, but of a generous and untireable stomach. The *Indian* wild Asses have one horn in their forehead, and their

their body all white, but their head is red: So is there another beast in *India* very like a wild Asse, which the Inhabitants eat (as we have read) about the straight of *Magellana*: When these Asses are hunted with Dogs, they cast forth their fime or dung, with the savour whereof the Dogs are stayed while it is hot, and by that means the beast escapeth danger: but the Asses of *Mauritania* are very short winded, and subject to weariness and stumbling, for which cause they are more easily taken, and the best of all are not so swift as a *Barbary* horse; besides their nature is, when they see a man to stand stone still, crying, braying, and kicking, till you come at them, and when one is ready to take them, they take their heels and run away. The Inhabitants of *Arabia* Desert, by many gins and other deceitful devises take them, and on horseback follow them till they tyre, or can strike them with their darts. Their flesh being hot, doth stink and taste like an other Asses, but boyled and kept two dayes hath a pleasant taste; yet doth it not breed good blood, because it is viscous and hard to be concocted, although there be many which eat that, as also the flesh of Panthers and other such beasts.

Phyles.
Pliny.

Ælianus.

Pliny teacheth that there is more vertue in the wild Asses milk and bones against venome and poison, then in the tame. Likewise, in the heel of an Asse, is a principal remedy against Apostemations and bunches in the flesh, if it be applied to the inner part of the thigh. The gall draweth out bitches, and must be anointed upon impostumate scars. It is used also in Emplaisters against Saint Antonies fire, the leprosie, and swelling in the legs and guts. The fat with oil of herbe *Mary* by anointing the reins of the back, helpeth and easeth that pain which was engendred by wind. The spleen dried to powder and drunk in wine or drink, is good against the sickness of the spleen. The flesh is good against the pain in the ridge and hip-bones: and *Galen* affirmeth, that the urine breaketh and dissolveth the stone in the bladder. The ashes of the hoof helpeth the falling evill, and mingled with oil, cureth the kings evill, and the looseness of the hair. The marrow easeth the Gowt, and the dung mixed with the yolk of an egge and applyed to the forehead, stayeth bleeding: also the same curleth the hair if it be mingled with an Oxes gall and dried: put into wine and drunk, cureth the sting of a Scorpion: and *Zor* an *Hebrew* affirmeth very constantly, that if a man look into an Asses eye, it preserveth the sight, and hindereth the water that descendeth into the eye.

Medicines.
Milke.

Pliny.

Of the Scythian Asses.

THE Asses of *Scythia* have horns wherein it is reported that the *Stygian* water of *Arcadia* may be contained, although it will eat through all other vessels be they never so hard. *Sospaier* brought of them to *Alexander* the great, who admiring the rareness, would not put them to any private use, but sent them to *Delphos*, to be offered to *Pythias*; but that these can be properly called Asses, no man can defend, although *Herodotus* also affirm, that among the *Africans* called *Aratours*, Lib. 4. there be Asses with horns.

Ælianus.

Of the Indian Asses.

IT is questionable whether the *Monoceros*, commonly called a *Unicorne*, the *Rhinoceros*, the *Oryx*, and the *Indian* Asse be all one beast or divers; for the *Unicorn* and *Rhinoceros* have the same things attributed to them in stories, and differ in very few reports: but for the Asses of *India*, both *Aristotle*, *Pliny* and *Ælianus*, joyntly agree, that they differ from all other whole-footed beasts, because they have one horn in the forehead, and so also have the *Rhinoceros*, *Monoceros*, and *Oryx*, but the *Indians* call a *Unicorne*, *Cartazono*; and the horn so highly prized at this day, is thought to be of the *Rhinoceros*; but *Ælianus* and *Philes* acknowledge no other *Unicorne* then the *Indian* Asse, who in bigness equalleth a Horse among the *Indians*, being all white on the body, but purple headed or red (as some say) black eyes, but *Volateranus* saith blew, having one horn in the forehead a cubit and a half long, whose upper part is red or bay, the middle black, and the neather part white, wherein the Kings and mighty men of *India* use to drink, adorning it for that purpose with sundry bracelets, pretious stones, and works of gold, holding for truth that all those which drink in those horns, shall be freed from annoyance of incurable diseases, as Convulsions, the Falling evill, and deadly poysons.

These wilde Asses exceed all other, both in stature of body, and also swiftness of foot, for at the first, they set forth very gently, and afterward speed their journey with better pace, so that it is very hard for any to follow them, but impossible to overgo them. The males take great pains in keeping their young ones, whom they continually watch and hide in the most remote and desert places they can finde. When they are hunted, they keep their weak young ones behind them, and fight for them very furiously, neither fear they to encounter horsemen. They are so strong, that no beast may stand before them, for they will receive the charge of Horses with such violence, that in their encounter they bite out their sides and tear their guts out of their belly: for which cause they are dreadful to Horses, who are most unwilling to joyn with them, for they never meet but they both perish.

They fight with their heels, but their teeth are most dangerous, for what they apprehend in

D

them

them they bring it clean away: and because of this rage, those which are of any years, can never be tamed. The great King of *India* doth once every year appoint all manner of fights both men and beasts, wherein are wilde Bulls, tame Rams, these wild Asses with one horn, *Hyænaes* and Elephants. To conclude, it is but a fable of *Volaterranus*, that saith, these Asses want a gall, for they have the bladder of the gall, a portion whereof drunk, cureth the falling evill.

Of the *ALBORACH* and *AXIS*.

There are two other beasts to be added to the end of this rank, namely the *Alborach* among the Turks, being a fair white beast like an Ass, whereupon the Turkish Priests blasphemous idolaters, perswade the silly Pilgrims of *Mecha*, that *Mabomet* was carryed up to heaven. The *Axis*, of which *Pliny* speaketh, is a wilde beast, having a skin like the *Hinnulus* aforesaid, but spred over with whiter spots, which is bred in *India*. *Bellonius* affirmeth, that he saw two of them in the Castle of *Cair*, a male and a female, and either sex wanted horns, having long tails down to their mid-legs like Deer, and differ very little from Deer, saving in their large white spots and yellow colour, yeelding a much more clear and sounding voice then a Deer, and the female thereof is smaller then the male. This beast is by idolatrous people, dedicated to their drunken god *Bacchus*.

Of the *BADGER*, otherwise called a *Brocke*, a *Gray*, or a *Banison*.



The *Badger* could never find a *Greek* name, although some through ignorance have foisted into a *Greek* Dictionary *Melin*, whereas in truth that is his *Latin* word, *Mele* or *Meles*, and so called, because above all other things, he loveth hony, and some later writers call him *Taxus*, *Tassus*, *Taxo*, and *Albertus Magnus*, *Daxus*. But whereas in the Scripture some translate *Tesson*, *Tabas*, or *Tachasch*, and plurally *Techaseim*, *Badgers*, yet is not the matter so clear, for there is no such beauty in a *Badgers* skin, as to cover the *Arke*, or to make *Princes* shooes thereof: therefore some *Hebrews* say, that it signifieth an *Oxe* of an exceeding hard skin. *Onkelus* tranflateth it *Salgona*, that is, a beast skin of divers colours; *Symmachus* and *Aquila* a jacinth colour, which cannot be; but the *Arabians*, *Daraseh*, and the *Persians*, *Asthak*; yet it may be rather said, that those skins spoken of *Exod. 25. Numb. 4. Ezek. 26.* be of the *Lynx*, or some such other beast: for *Tachasch* cometh neer *Thos*, signifying a kind of *Wolf* not hurtful to men, being rough and hairy in *Winter*, but smooth in *Summer*.

The *Italians* call a *Badger* *Tasso*, the *Rhetians*, *Tasch*; the *French*, *Taussen*, *Taixin*, *Tasson*, *Tesson*, and sometime *Grisart*, for her colour: sometime *Blareau*, and at *Paris*, *Bedovo*. The *Spaniards*, *Tafugo*, *Taxon*; the *Germans*, *Tachs*, or *Daxs*; the *Illyrians*, *Gezwecz*.

Country of,
breed.
Celius Curio.
Diversity of
kinds.

Badgers are plentiful in *Naples*, *Sicily*, *Lucane*, and in the *Alpine* and *Helvetian* coasts, so are they also in *England*. In *Lucane* there is a certain wilde beast, resembling both a *Bear* and a *Hog*, not in quantity, but in form and proportion of body; which therefore may fitly be called in *Greek*, *Suarctos*, for a *Gray*, in short legs, ears and feet, is like a *Bear*, but in fatness like a *Swine*. Therefore it is observed, that there be two kinds of this beast, one resembling a *Dog* in his feet, which is cald *Canine*; the other a *Hog* in his cloven hoof, and is cald *Swinish*: also these differ in the fashion of their snowt, one resembling the snowt of a *Dog*, the other of a *Swine*: and in their meat,

meat, the one eating flesh and carrion like a Dog, the other roots and fruits like a Hog, as both kinds have been found in *Normandy* and other parts of *France* and *Sicilie*. This beast diggeth her a den or cave in the earth, and there liveth; never coming forth but for meat and easement, which it maketh out of his den: when they dig their den, after they have entred a good depth for avoiding the earth out, one of them falleth on the back, and the other layeth all the earth on his belly, and so taking his hinder feet in his mouth, draweth the belly-laden Badger out of the cave, which disburdeneth her cariage, and goeth in for more till all be finished and emptied. The wily Fox never maketh a Den for himself, but finding a Badgers cave, in her absence, layeth his excrements at the hole of the Den, the which when the *Gray* returneth, if she smell (as the labour is strong) she forbeareth to enter as noisome, and so leaveth her elaborate house to the Fox. These Badgers are very sleepy, especially in the day time, and stir not abroad but in the night, for which cause they are called *Lucifuge*; that is, *avoiders of the light*. They eat hony, and wormes, and hornets, and such like things, because they are not very swift of foot to take other creatures. They love Orchards, Vines, and places of fruits also, and in the autumn they grow therewith very fat.

A secret in
their manner
of digging.
Isidorus.
Albertus.

Their meat.

They are in quantity as big as a Fox, but of a shorter and thicker body; their skin is hard, but rough and rugged, their hair harsh and stubborn, of an intermingled grisard colour, sometime white, sometime black, his back covered with black, and his belly with white, his head from the top thereof to the ridge of his shoulder, is adorned with strakes of white and black, being black in the middle, and white at each side. He hath very sharp teeth, and is therefore accounted a deep-biting beast. His back is broad, his legs (as some say) longer on the right side then on the left, and therefore he runneth best when he getteth to the side of a hill, or a cart-road-way. His tail is short but hairy, and of divers colours, having a long face or snowt like the *Zibethus*: his forelegs being a full span long, and the hinder legs shorter, short ears and little eyes, a great bladder of gall, a body very fat betwixt the skin and the flesh, and about the heart; and it is held that this fat increaseth with the Moon, and decreaseth with the same, being none at all at the change: his forelegs have very sharp nails, bare and apt to dig withall, being five both before and behind, but the hinder very short ones and covered with hair. His savour is strong, and is much troubled with lice about his secrets; the length of his body from the nose which hangeth out like a Hogs nose, to the tail or rump, is some thirty inches and a little more, the hair of his back three fingers long; his neck is short and like a Dogs: both male and female have under their hole another outwardly, but not inwardly in the male. If she be hunted out of her Den with Hounds, she biteth them grievously if she lay hold on them, wherefore they avoid her carefully, and the Hunters put great broad collars made of a Grays skin about their Dogs neck, to keep them the safer from the Badgers teeth: her manner is to fight on her back, using thereby both her teeth and her nails, and by blowing up her skin above measure after an unknown manner, she defendeth her self against the strokes of men, and the teeth of Dogs: wherefore she is hardly taken, but by devises and gins for that purpose invented; with their skins they make quivers for arrows, and some shepherds in *Italy* use thereof to make sacks, wherein they wrap themselves from the injury of rain.

Cardanus.

Her defence a-
gainst Hunters
and their dogs.

In *Italy* and *Germany* they eat Grays flesh, and boil with it pears, which maketh the flesh tast like the flesh of a Porcupine. The flesh is best in *September* if it be fat, and of the two kinds, the Swinish Badger is better flesh then the other. There are sundry vertues confected out of this beast; for it is affirmed, that if the fat of a Badger mingled with crude hony, and anointed upon a bare place of a horse, where the former hairs are pulled off, it will make new white hairs grow in that place: and it is certain (although the *Grecians* make no reckoning of Badgers grease, yet) it is a very sovereign thing to soften, and therefore *Serenus* prescribeth it to anoint them that have Fevers or Inflammations of the body,

Badgers eaten,
Platina.

Medicine made
of Badgers.
Gratius.
Brasavolus.

Nec spernendus adeps dederit, quem bestia melis.

Albertus.

And not to be despised for other cures: as for example, the easing of the pain of the reins if it be given in a glyster, and likewise the fat of a Dog and a Badger mingled together, do loosen contracted sinews.

The ashes of a Badger is found to help the bleeding of the stomach, and the same sod and drunk, preventeth danger by the biting of a mad Dog: and *Brunfelsius* affirmeth, that if the blond of a Badger be infilled into the horns of Cattel with salt, it keepeth them from the murrain, and the same dried and beat to powder doth wonderfully help the Leprosie. The brain sod with oil easeth all aches; the liver taken out of water, helpeth swellings in the mouth; and some affirm, that if one wear soles made of Badgers skins in their shooes, it giveth great ease unto the Gowt. The biting of this beast is venomous, because it feedeth upon all venomous meats which creep upon the earth, although *Arnoldus* be of a contrary judgement; and of this beast I can report no other thing worth the noting, save that the Noble family of the *Taxons* in *Ferraria*, took their name from this creature.

Bovillus.

Brasavolus.

Of the BEAR.



Of the name.

A Bear is called in the Hebrew, *Dob*, and plurally *Dubim*; of the Arabians, *Dubbe*; of the Chaldeans, *Duba*, *Aldub* and *Daboube*; of the Grecians, *Arctos*; of some *Dasyllis*, because of the roughness of his hair; of other *Beiros*, and *Monios*, signifying a solitary Bear. The *Latins* call him *Ursus*, which some conjecture to be *tanquam ursus*, signifying that it is but begun to be framed in the dam's belly, and perfected after the littering thereof. The *Italians* call it *Orso*, so also the *Spaniards*; the *French*, *Ours*; the *Germans*, *Bear*, and *Beer*; the *Bohemians*, *Nedwed*; the *Polonians*, *Vulver*: and the attributes of this beast are many among Authors, both *Greek* and *Latin*; as *Amonian Bears*, armed, filthy, deformed, cruel, dreadful, fierce, greedy, *Calydonian*, *Erymanthean*, bloody, heavy, night ranging, *Lybian*, menacing, *Numidian*, *Offean*, head-long, ravening, rigid and terrible Bear; all which serve to set forth the nature hereof, as shall be afterward in particular discoursed.

Epithets of the Bear.

First,

First, therefore concerning several kinds of Bears, it is observed, that there is in general two; a greater, and a lesser; and these lesser are more apt to climb trees than the other, neither do they ever grow to so great a stature as the other. Besides there are Bears which are called *Amphibia*, because they live both on the Land and in the Sea, hunting and catching fish like an Otter or Beaver, and these are white coloured. In the Ocean Islands towards the North, there are Bears of a great stature, fierce and cruel, who with their fore-feet do break up the the hardest congealed Ice on the Sea, or other great Waters, and draw out of those holes great abundance of fishes: and so in other frozen Seas are many such like, having black claws, living for the most part upon the Seas, except tempestuous weather drive them to the Land.

In the Eastern parts of *India*, there is a beast in proportion of body very like a Bear, yet indued with no other quality of that kind, (being neither so wild, nor ravenous, nor strong) and it is called a *Formicarian* Bear; for God hath so provided, that whereas that Countrey is abundantly annoyed with the Emmets or Ants, that beast doth so prey and feed upon them, that by the strength and vertuous humor of his tongue, the silly poor Inhabitants are exceedingly relieved from their grievous and dangerous numbers.

Bears are bred in many Countreys, as in the *Helvetian Alpine* region, where they are so strong and full of courage, that they can tear in pieces both Oxen and Horses, for which cause the Inhabitants study by all means to take them. Likewise there are Bears in *Persia*, which do raven beyond all measure, and all other; so also the Bears of *Numidia*, which are of a more elegant form and composition than the residue;

*Profuit ergo nihil misero, quod cominus ursos
Figebat Numidas, Albena nudus arena.*

And whereas *Pliny* affirmeth, that there are no Bears in *Africk*, he mistook that Countrey for *Creet*, and so some say, that in that Island be no Wolves, Vipers, or other such venomous creatures; whereof the Poets give a vain reason, because *Jupiter* was born there: but we know also, that there be no Bears bred in *England*.

In the Countrey of *Arabia*, from the Promontory *Dira* to the South, are Bears which live upon eating of flesh, being of a yellowish colour, which do far excel all other Bears, both in activity or swiftness, and in quantity of body. Among the *Rexolani* and *Lituanians*, are Bears, which being tamed are presents for Princes. *Aristotle* in his wonders reporteth, that there are white Bears in *Misia*, which being eagerly hunted, do send forth such a breath, that putrifieth immediately the flesh of the Dogs, and whatsoever other beast cometh within the savour thereof, it maketh the flesh of them not fit to be eaten: but if either men or dogs approach or come nigh them, they vomit forth such abundance of phlegm, that either the hunters are thereby choked or blinded.

Thracia also breedeth white Bears, and the King of *Aethiopia* in his *Hebrew* Epistle which he wrote to the Bishop of *Rome*, affirmeth, that there are Bears in his Countrey: In *Muscovia* are Bears, both of a Snow white, yellow, and dusky colour, and it hath been seen that the Noble womens Chariots drawn by six Horses, have been covered with the skins of white Bears, from the pasteron to the head: and as all other creatures do bring forth some white, and some black, so also do Bears, who in general do breed and bring forth their young in all cold Countreys, some of a dusky and some of a brown black colour.

A Bear is of a most venereous and lustful disposition, for night and day the females with most ardent inflamed desires, do provoke the males to copulation; and for this cause at that time they are most fierce and angry.

Philippus Cossens of *Constance*, did most confidently tell me, that in the Mountains of *Savoy*, a Bear carried a young maid into his den by violence, where in venereous manner he had the carnal use of her body, and while he kept her in his den, he daily went forth and brought her home the best Apples and other fruits he could get, presenting them unto her for her meat in very amorous sort; but always when he went to forrage, he rouled a huge great stone upon the mouth of his den, that the Virgin should not escape away: at length her parents with long search, found their little Daughter in the Bears den, who delivered her from that savage and beastial captivity.

The time of their copulation is in the beginning of Winter, although sometime in Summer, (but such young ones seldom live) yet most commonly in *February* or *January*. The manner of their copulation is like to a mans, the male moving himself upon the belly of the female, which lyeth on the earth flat upon the back, and either embraceth other with their fore-feet: they remain very long time in that act, inasmuch as if they were very fat at their first entrance, they disjoin not themselves again till they be made lean.

Immediately after they have conceived, they betake themselves to their dens, where they (without meat) grow very fat (especially the males) only by sucking their fore-feet. When they enter into their den, they convey themselves in backwards, that so they may put out their foot-steps from the sight of the hunters. The males give great honor to the females great with young, during the time of their secrecie, so that, although they lie together in one cave, yet do they part it by a female division or small ditch in the midst, neither of them touching the other. The nature of all of them is, to avoid cold, and therefore in the Winter time do they hide themselves, chusing rather to suffer famine than cold; lying for the most part three or four months together and never see the light,

Of the kinds of Bears.

Agricola.

Albertus.

Olaus.

A *Formicarian* Bear.

Cardanus.

Countrey of breed.

Marcellinus.

Volaterran.

A secret in the natures of Bears.

Lust of Bears.

Gillius.

A History.

Time of their copulation.

Pliny.

A secret.

Honor to the female.

Avoiding of cold.

Time of bearing the young Bears.

The bigness of a Bear-whelp.

Bears not so unperfect as some have reported.

Number of young ones.

Remedy in Nature.

A fabulous tale, yet vulgarly believed.

The meat of Bears.

Horat.
Vespertinus circumgenuit usus ovile.

Of the quantity and parts of Bears.

The parts or members.

A superstitious use of Bears-lard or fat.

whereby their guts grow so empty, that they are almost closed up and stick together.

When they first enter into their den, they betake themselves to quiet and rest, sleeping without any awaking, for the first fourteen dayes, so that it is thought an easie stroke cannot awake them. But how long the females go with young is not certain, some affirm three months, others but thirty dayes, which is more probable, for wild beasts do not couple themselves being with young (except a Hare and a Linx) and the Bears being (as is already said) very lustful, to the intent that they may no longer want the company of their males, do violently cast their Whelps, and so presently after delivery, do after the manner of Conies betake themselves to their lust, and nourishing their young ones both together: and this is certain, that they never come out of their caves, till their young ones be thirty dayes old at the least; and *Pliny* precisely affirmeth, that they litter the thirtieth day after their conception; and for this cause, a Bear bringeth forth the least whelp of all

other great beasts, for their whelps at their first littering are no bigger then rats, nor longer then ones finger. And whereas it hath been believed and received, that the whelps of Bears at their first littering are without all form and fashion, and nothing but a little congealed blood like a lump of flesh, which afterwards the old one frameth with her tongue to her own likeness, as *Pliny*, *Solinus*, *Ælianus*, *Orus*, *Oppianus*, and *Ovid* have reported, yet is the truth most evidently otherwise, as by the eye-witness of *Joachimus Reticus*, and other, is disproved: only it is littered blind without eyes, naked without hair, and the hinder legs not perfect, the fore-feet folded up like a fist, and other members deformed by reason of the immoderate humor or moistness in them, which also is one cause, why the Womb of the Bear cannot retain the seed to the perfection of her young ones.

They bring forth sometimes two, and never above five, which the old Bear daily keepeth close to her brest, so warming them with the heat of her body and the breath of her mouth, till they be thirty days old; at what time they come abroad, being in the beginning of *May*, which is the third Month from the Spring. The old ones being almost dazled with long darkness, coming into light again seem to stagger and reel to and fro, and then for the straightness of their guts, by reason of their long fasting do eat the hearb *Arum*, commonly called in English *Wake-Robbin* or *Calves-foot*, being of very sharp and tart taste, which enlargeth their guts, and so being recovered, they remain all the time their young are with them, more fierce and cruel then at other times. And concerning the same *Arum*, called also *Dracunculus* and *Oryx*, there is a pleasant vulgar tale, whereby some have conceived that Bears eat this herb before their lying secret; and by vertue thereof (without meat, or sense of cold) they pass away the whole Winter in sleep.

There was a certain Cow-herd in the Mountains of *Helvetia*, which coming down a hill with a great Caldron on his back, he saw a Bear eating of a root which he had pulled up with his feet; the Cow-herd stood still till the Bear was gone, and afterward came to the place where the beast had eaten the same, and finding more of the same root, did likewise eat it; he had no sooner tasted thereof, but he had such a desire to sleep, that he could not contain himself, but he must needs lie down in the way and their fell asleep, having covered his head with the Caldron, to keep himself from the vehemency of the cold, and their slept all the Winter time without harm, and never rose again till the Spring time: Which fable if a man will believe, then doubtless this hearb may cause the Bears to be sleepers, not for fourteen days, but for fourscore days together.

The ordinary food of Bears is fish: for the Water-bear and others will eat fruits, Apples, Grapes, Leaves, and Pease, and will break into Bee-hives sucking out the Hony; Likewise Bees, Snayls, and Emmets, and flesh if it be lean or ready to putrifie; but if a Bear do chance to kill a Swine, or a Bull, or Sheep, he eateth them presently, whereas other Beasts eat not hearbs if they eat flesh: likewise they drink water; but not like other beasts, neither sucking it or lapping it, but as it were, even biting at it.

Some affirm, that Bears do wax or grow as long as they live, that there have been seen some of them five cubits long; yea I my self saw a Bears skin of that length, and broader then an Oxes skin.

The head of a Bear is his weakest part (as the hand of a Lyon is the strongest) for by a small blow on his head he hath often been stricken dead, the bones of the head being very thin and tender: yea more tender then the beak of a Parrot. The mouth of a Bear is like a Hogs mouth, but longer; being armed with teeth on both sides, like a saw, and standing deep in his mouth, they have very thick lips, for which cause, he cannot easily or hastily with his teeth break asunder the hunters nets, except with his fore-feet.

His neck is short, like a Tygers and a Lyons, apt to bend downwards to his meat; his belly is very large, being uniform, and next to it the intrals as in a Wolf: It hath also four speans to her Paps. The genital of a Bear after his death waxeth as hard as horn, his knees and elbows are like to an Apes, for which cause they are not swift or nimble: his feet are like hands, and in them and his loins is his greatest strength, by reason whereof, he sometimes setteth himself upright upon his hinder legs: the pastern of his leg being fleshy like a Cammels, which maketh them unfit for travel; they have sharp claws, but a very small tail as all other long haired creatures have.

They are exceeding full of fat or lard-grease, which some use superstitiously beaten with Oyl, wherewith they anoynt their Grape-suckles when they go to vintage, perswading themselves that if no body know thereof, their tender Vine-branches shall never be consumed by Caterpillars.

Other

Other attribute this to the vertue of Bears blood, and *Theophrastus* affirmeth, that if Bears greafe be kept in a vessel, at such time as the Bears lie secret, it will either fill it up, or cause it to run over. The flesh of Bears is unfit for meat, yet some use to eat it, after it hath been twice sod; other eat it baked in pasties; but the truth is, it is better for medicine then for food. *Theophrastus* likewise affirmeth, that at the time when Bears lie secret, their dead flesh encreaseth which is kept in houses, but Bears fore-feet are held for a very delicate and well tasted food, full of sweetness; and much used by the *German* Princes.

A secret.

Meat of Bears
flesh.Another se-
cret.

The skins.

The skins of Bears are used in the far Northern regions for garments in the Winter time, which they make so artificially, covering themselves with them from the crown of the head to the feet; that (as *Munster* affirmed) some men deceived with that appearance, deemed the people of *Lapponia* to be hairy all over. The souldiers of the *Moors* wear garments made of Lyons, Pardals, and Bears skins, and sleep upon them; and so it is reported of *Herodotus Megarensis* the Musitian, who in the day time wore a Lyons skin, and in the night lay in a Bears skin.

The constitution of the body of a Bear is beyond measure phlegmaticque, because he fasteth in the Winter time so long without meat: His voyce is fierce and fearful in his rage, but in the night time mournful, being given much to ravening. If a Bear do eat of *Mandragoras*, he presently dyeth, except he meet with Emmets, by licking of whom he recovereth: so likewise if he be sick of a Surfeit.

A Bear is much subject to blindness of the eyes, and for that cause they desire the Hives of Bees, not only for the Hony, but by the stinging of the Bees, their eyes are cured. It hath not been seen that a female Bear was taken great with young, which cometh to pass, by reason that they go to their Dens so soon as they are conceived, and come not out thence till they have littered: And because of the fierceness of this beast, they are seldom taken alive, except they be very young: so that some are killed in the Mountains by poyson, the Countrey being so steep and rocky that Hunters cannot follow them; some taken in ditches of the earth, and other gins. *Oppianus* relateth, that near *Tygris* and *Armenia*, the Inhabitants use this stratagem to take Bears. The people go often to the Woods to find the Den of the Bear, following a Leam-hound, whose nature is so soon as he windeth the Beast, to bark, whereby his leader discovereth the prey, and so draweth off the Hound with the leam; then come the people in great multitude, and compassing him about with long nets, placing certain men men at each end: then tye they a long rope to one side of the net as high from the ground as the small of a mans belly: whereunto are fastned divers plumes and feathers of Vultures, Swans, and other resplendent coloured birds, which with the wind make a noise or hissing, turning over (and glistering; on the other side of the net they build four little hovels of green boughs, wherein they lay four men covered all over with green leaves, then all being prepared, they sound their Trumpets, and wind their Horns; at the noise whereof the Bear ariseth, and in his fearful rage runneth to and fro as if he saw fire: the young men armed make unto him, the Bear looking round about, taketh the plainest way toward the rope hung full of feathers, which being stirred and haled by them that hold it, maketh the Bear much affraid with the rattling and hissing thereof, and so flying from that side half mad, runneth into the nets, where the Keepers entrap him so cunningly, that he seldom escapeth.

Taking of
Bears.

When a Bear is set upon by an armed man, he standeth upright and taketh the man betwixt his fore-feet, but he being covered all over with iron plates can receive no harm, and then may easily with a sharp knife or dagger pierce through the heart of the beast.

If a she Bear having young ones be hunted, she driveth her whelps before her untill they be wearied, and then if she be not prevented, she climbeth upon a tree, carrying one of her young in her mouth, and the other on her back. A Bear will not willingly fight with a man, but being hurt by a man, he gnasheth his teeth, and licketh his fore-feet: and it is reported by an Ambassador of *Poland*, that when the *Sarmatians* find a Bear, they inclose the whole Wood by a multitude of people, standing not above a cubit one from another, then cut they down the outmost trees, so that they raise a wall of wood to hem in the Bears; this being effected, they raise the Bear, having certain forks in their hands made for that purpose, and when the Bear approacheth, they (with those forks) fall upon him, one keeping his head, another one leg, another his body, and so with force muzzle him and tie his legs, leading him away. The *Rhatians* use this policy to take Wolves and Bears: they raise up great posts, and cross them with a long beam laded with heavy weights, unto the which beam they fasten a cord with meat therein, whereunto the beast coming, and biting at the meat, pulleth down the beam upon her own pate.

The Inhabitants of *Helvetia* hunt them with mastiff Dogs, because they should not kill their Cat-tel left at large in the field in the day time; They likewise shoot them with guns, giving a good sum of money to them that can bring them a slain Bear. The *Sarmatians* use to take Bears by this sleight; under those trees wherein Bees breed, they plant a great many of sharp pointed stakes, putting one hard into the hole wherein the Bees go in and out, whereunto the Bear climbing, and coming to pull it forth, to the end that he may come to the Hony, and being angry that the stake sticketh so fast in the hole, with violence plucketh it forth with both her fore-feet, whereby she looseth her hold and falleth down upon the picked stakes, whereupon she dieth, if they that watch for her come not to take her off. There was reported by *Demetrius* Ambassador at *Rome*, from the King of *Musco*, that a neighbour of his going to seek Hony, fell into a hollow tree up to the breast in Hony, where he lay two days, being not heard by any man to complain; at length came

A History.

came a great Bear to this Hony; and putting his head into the tree, the poor man took hold thereof, whereat the Bear suddenly affrighted, drew the man out of that deadly danger, and so ran away for fear of a worse creature.

Herus.

But if there be no tree wherein Bees do breed neer to the place where the Bear abideth, then they use to anoynt some hollow place of a tree with Hony, whereinto Bees will enter and make Hony-combes, and when the Bear findeth them she is killed as afore said. In *Norway* they use to saw the tree almost asunder, so that when the beast climbeth it, she falleth down upon piked stakes laid underneath to kill her: And some make a hollow place in a tree, wherein they put a great pot of water, having anoynted it with Hony, at the bottom whereof are fastened certain hooks bending downward, leaving an easie passage for the Bear to thrust in her head to get the Hony, but impossible to pull it forth again alone, because the hooks take hold on her skin: this pot they binde fast to a tree, whereby the Bear is taken alive, and blindfolded, and though her strength break the cord or chain wherewith the pot is fastened, yet can she not escape or hurt any body in the taking, by reason her head is fastened in the pot.

Pollux.

To conclude, other make ditches or pits under Apple-trees, laying upon their mouth rotten sticks, which they cover with earth, and strow upon it herbs, and when the Bear cometh to the Apple-tree, she falleth into the pit and is taken.

Ælianus.

The herb Wolfeban or Libardine is poison to Foxes, Wolves, Dogs, and Bears, and to all beasts that are littered blinde, as the *Alpine Rbatians* affirm. There is one kinde of this called *Cyclamine*, which the *Valdensians* call *Tora*, and with the juyce thereof they poyson their darts, whereof I have credibly received this story; That a certain *Valdensian*, seeing a wilde Bear, having a dart poysoned herewith, did cast it at the Bear being far from him, and lightly wounded her, it being no sooner done, but the Bear ran to and fro in a wonderful perplexity through the woods, unto a very sharp cliffe of a rock, where the man saw her draw her last breath, as soon as the poyson had entered to her heart, as he afterward found by opening of her body. The like is reported of *Hennibane*, another herb: But there is a certain black fish in *Armenia*, full of poyson, with the powder whereof they poyson Figs, and cast them in those places where wilde beasts are most plentiful, which they eat, and so are killed.

Albertus.

Concerning the industry or natural disposition of a Bear, it is certain that they are very hardly tamed, and not to be trusted though they seem never so tame; for which cause there is a story of *Diana* in *Lysia*, that there was a certain Bear made so tame, that it went up and down among men and would feed with them, taking meat at their hands, giving no occasion to fear or mistrust her cruelty: on a day, a young maid playing with the Bear lasciviously did so provoke it, that he tore her in pieces; the Virgins brethren seeing the murder, with their darts slew the Bear, whereupon followed a great pestilence through all that region: and when they consulted with the Oracle, the paynim God gave answer, that the plague could not cease, untill they dedicated some Virgins unto *Diana* for the Bears sake that was slain; which some interpreting that they should sacrifice them: *Embarus* upon condition the Priesthood might remain in his family, slew his only daughter to end the pestilence, and for this cause the Virgins were after dedicated to *Diana* before their marriage, when they were betwixt ten and fifteen year old, which was performed in the month of *January*, otherwise they could not be marryed: Yet Bears are tamed for labours, and especially for sports among the *Roxolani* and *Lybians*, being taught to draw water with wheels out of the deepest wels; likewise stones upon sleds to the building of walls.

A History.

A Prince of *Lithuania* nourished a Bear very tenderly, feeding her from his table with his own hand, for he had used her to be familiar in his Court, and to come into his own chamber when he listed, so that she would go abroad into the fields and woods, returning home again of her own accord, and would with her hand or foot rub the Kings chamber door to have it opened, when she was hungry; it being locked: it happened that certain young Noble-men conspired the death of this Prince, and came to his chamber door, rubbing it after the custom of the Bear, the King not doubting any evill, and supposing it had been his Bear, opened the door, and they presently slew him.

Celsus.

There is a fable of a certain wilde Bear, of huge stature, which terrified all them that looked upon her, the which *Pythagoras* sent for, and kept to himself, very familiarly using to stroke and milk her; at the length when he was weary of her, he whispered in her ear, and bound her with an oath, that being departed she should never more harm any living thing, which saith the fable, she observed to her dying day. These Bears care not for any thing that is dead, and therefore if a man can hold his breath as if he were dead, they will not harm him; which gave occasion to *Esop*, to fable of two companions and sworn friends, who travelling together met with a Bear, whereat they being amazed, one of them ran away and gat up into a tree; the other fell down and counterfeited himself dead, unto whom the Bear came and smelt at his nostrils and ears for breath, but perceiving none, departed without hurting him: soon after the other friend came down from the tree, and merrily asked his companion what the Bear said in his ear, Marry (quoth he) she warn'd me that I should never trust such a fugitive friend as thou art, which didst forsake me in my greatest necessity: thus far *Esop*.

Varrinus.

They will bury one another being dead, as *Tzetzes* affirmeth, and it is received in many Nations, that children have been nursed by Bears: *Paris* thrown out of the City, was nourished by a Bear. There is in *France* a Noble house of the *Ursins*, whose first founder is reported to have been certain years

years together nourished by a Bear, and for that cause was called *Ursus*: and some affirm, that *Arcefius* was so, being deceived by the name of his mother who was called *Arctos*, a Bear: as among the Latines was *Ursula*. And it is reported in the year of our Lord 1274. that the Concubine of Pope *Nicholas* (being with childe as was supposed) brought forth a young Bear, which she did not by any unlawful copulation with such a beast, but only with the most holy Pope; and conceived such a creature, by strength of imagination, lying in his Palace, where she saw the pictures of many Bears; so that the holy Father being first put in good hope of a son, and afterward seeing this monster (like himself, Rev. 13.) for anger and shame defaced all his pictures of those beasts. There is a mountain called the Mountain of Bears in *Cyzicus*, betwixt *Chersonesus* and *Propontus*; so called, because as some have affirmed, *Helice* and *Cynosura* were turned into Bears in that place, but the reason is more probable, because it was full of Bears, or else because it was so high that it seemed to touch the Bear-star.

There is a Constellation called the Bear in the figure of seven Stars like a Cart, whereof four stand in the place of the wheels, and three in the room of Horses. The *Septentrions* call them *Triones*, that is yoked Oxen. But there are two Bears, a greater and a lesser. The greater is called *Callisto*, after the name of *Lycæus* daughter, who reigned in *Arcadia*, whereof many give divers reasons. For they say *Callisto* was a companion of *Diana*, and used to hunt with her being very like unto her, and one day *Jupiter* came to her in the likeness of *Diana*, and deflowered her, and when she was with childe, *Diana* asked how that happened, to whom *Callisto* answered, that it happened by her fact: wherewith the Goddess being angry, turned her into a Bear, in which shape she brought forth *Arctas*, and they both wandering in the Woods, were taken and brought for a present unto *Lycæon* her father: And upon a day, the Bear being ignorant of the law, entered into the Temple of *Jupiter Lycæus*, and her son followed her, for which the *Arcadians* would have slain them both, but *Jupiter* in pity of them took them both into Heaven, and placed them among the Stars.

Other say that *Callisto* was turned into a Bear by *Iuno*, whom afterward *Diana* slew, and coming to knowledge that it was *Callisto*, she placed her for a sign in Heaven, which is called *Ursa Major*, the great Bear; which before that time was called *Hamaxa*; but the reason of these fables is rendered by *Palæpharus*, because that *Callisto* going into a Bears den, was by the Bear devoured, and so her foolish companions seeing none come forth but the Bear, fondly imagined that the Virgin was turned into a Bear.

There is another Constellation next to the great Bear, called *Arctophylax*, *Bootes*, or the little Bear, in whose girdle is a bright Star called *Arcturus*, and from this constellation of Bears, cometh the denomination of the *Arctique* and *Antarctique* pole. Other affirm, that the two Bears were *Helice* and *Cynosura*, the two Nurfes of *Jupiter*, because sometime they are so named; the cause whereof is apparent in the Greek tongue, for *Helice* is a Star, having as it were a tail rowled up, and *Cynosura*, a tail at length like a Dog. They are also nourished for sport, for as their bodies do in one sort resemble Apes, so do also their dispositions, being apt to sundry gestures and pastimes, lying upon their backs, and turning their hands and feet, rock themselves upon them as a woman rocketh her childe in a cradle; but principally for fight: for which occasion they were preserved of old time by the Romans: For when *Messala* was Consul, *Ænobarbus Domitius* presented in one ring or circle, an hundred Bears, and so many hunters with them.

*Rabido nec proditus ore
Fumantem nasum vivi tentaveris urfi,
Sit placidus licet, & lambat digitosque manusque:
Si dolor & bilis, si iusta coegerit ira,
Ursus erit, vacua demes in pelle fatiges.*

They will not willingly fight with a man, although men may do it without hurt, for if they annoynt or sprinkle the mouths of Lyons or Bears with Vitriol or Copperas, it will so bind their chaps together, that they shall not be able to bite, which caused *Martiall* to write thus:

*Præcepit sanguinea dum se rotat ursus arena,
Implicitam visco perdidit ille fugam.
Splendida jam tecto cessant venabula ferro:
Nec volet excussa lancea torta manu.
Deprendat vacuo venator in aere prædam,
Si captare seras aucupis arte placet.*

Alexander had a certain Indian Dog given unto him, to whom was put a Bore and a Bear to fight withall, but he disdainning them, would not once regard them, but when a Lyon came, he rose up and fought with him. Bears, they will fight with Bulls, Dogs, and Horses: when they fight with Bulls, they take them by their horns, and so with the weight of their body, they weary and press the beast, untill they may easily slay him: and this fight is for the most part on his back. A *Rhinoceros* set on by a Bear in a publick spectacle at *Rome*, did easily cast him off from the hold he had on his horn. She doth not adventure on a wilde Bore, except the Bore be asleep, or not seeing her. There is also a mortal hatred betwixt a Horse and a Bear, for they know one another at the first sight; and prepare to combat, which they rather act by policy then by strength: The Bear falling flat on his back,

Fight of Bears.

back the Horse leaping on the Bear, which pulleth at his guts with her fore-feet-nails, and is by the heels of the Horse wounded to death, if he strike the Bear upon his head. Also Bears fear a Sea-calf, and will not fight with them if they can be avoided, for they know they shall be overcome.

Great is the fierceness of a Bear, as appeareth by holy Scripture, *Hof. 13. I will meet them as a Bear robbed of her whelps* (saith the Lord) *and will tear in pieces their froward heart*: And *Chusai telleth Absalon, 2 Sam. 17. Thou knowest that thy Father and the men that be with him be most valiant and fierce, like a she Bear robbed of her Whelps*: for a she Bear is more couragious then a male.

There is a filthy Nation of men called *Taifab*, who are given unto a Sodomitical buggery, to commit uncleanness man with man, and especially with young boyes; but if any of them take a wilde Bore, or kill a Bear, he shall be exempted from this kind of beastly impudicity. *Helingabalus* was wont to shut up his drunken friends together, and suddenly in the night would put in among them Bears, Wolves, Lyons, and Leopards, muzzled and disarmed, so that when they did awake, they should finde such chamber-fellows, as they could not behold (if darkness did not blind them) without singular terror; whereby many of them fell into swoonds, sickness, extasie and madness.

Aeneas Sil.

Vnioldus King of *Lituania*, kept certain Bears of purpose, to whom he cast all persons which spoke against his tyranny, putting them first of all into Bears skins; whose cruelty was so great, that if he had commanded any of them to hang themselves, they would rather obey him then endure the terror of his indignation: In like sort did *Alexander Pheræus* deal with his subjects, as is reported by *Tector. Valentinianus* the Emperor nourished two Bears devourers of men, one of them called golden *Mica*, the other *Innocentia*; which he lodged neer his own Chamber: at length after many slaughters of men, he let *Innocentia* go loose in the Woods for her good deserts, in bringing so many people to their funerals.

Secrets observed of Bears.

Columella.

There are many natural operations in Bears. *Pliny* reporteth, that if a woman be in sore travail of childe-birth, let a stone or arrow which hath killed a Man, a Bear or a Bore, be thrown over the house wherein the woman is, and she shall be eased of her pain. There is a small worm called *Volvox*, which eateth the Vine-branches when they are young, but if the Vine-suckles be anoynted with Bears blood, that worm will never hurt them. If the blood or grease of a Bear be set under a bed, it will draw unto it all the fleas, and so kill them by cleaving thereunto. But the vertues medicinal are very many: and the first of all, the blood cureth all manner of Bunches and Apostumes in the flesh, and bringeth hair upon the eye-lids if the bare place be anoynted therewith.

Arnoldus.
Vertues medicinal.

The fat of a Lyon is most hot and dry, and next to a Lyons, a Leopards; next to a Leopards, a Bears; and next to a Bears, a Buls. The later Physitians use to cure convulsed and distracted parts, spots, and tumors in the body. It also helpeth the pain in the loyns, if the sick part be anoynted therewith, and all Ulcers in the legs or shins, when a Plaister is made thereof with Bole-Armorick. Also the Ulcers of the feet mingled with Allom. It is soveraign against the falling of the hair, compounded with wilde roses. The *Spaniards* burn the brain of Bears when they die in any publick sports, holding them venomous, because being drunk, they drive a man to be as mad as a Bear; and the like is reported of the heart of a Lyon, and the brain of a Cat. The right eye of a Bear dried to powder, and hung about childrens necks in a little bag, driveth away the terror of dreams, and both the eyes whole, bound to a mans left arm, easeth a quartain Ague.

The Liver of a Sow, a Lamb, and a Bear put together, and trod to powder under ones shooes easeth and defendeth Cripples from inflammation: the gall being preserved and warmed in water, delivereth the body from cold, when all other medicine faileth. Some give it mixt with water, to them that are bitten with a mad Dog, holding it for a singular remedy, if the party can fast three days before. It is also given against the Palsie, the Kings Evill, the Falling-sickness, an old Cough, the Inflammation of the Eyes, the running of the Ears, the difficulty of Urine, and delivery in Childe-birth, the Hemorrhoides, the weakness of the Back. The stones in a Perfume are good against the Falling evill, and the Palsie; and that women may go their full time, they make Amulets of Bears nails, and cause them to wear them all the time they are with childe.

Of the BEAVER Male and Female.

Of the name, *Silvaticus.*

A Beaver is called in *Greek*, *Castor*; in *Latine*, *Fiber*; in *Italian*, *Bivarro*, or *Bivero*, and *Ilcastoreo*; in *Spanish*, *Castor*; in *French*, *Bieure*, and sometime *Castor*; in *Illyrian*, *Bohr*; in *German*, *Biber*: all which words at the first sight seem to be derived from the *Latine*: There is no certain word for it in *Hebrew*: in *Arabia* it is called *Albednefer*: it is also called in *Latine*, *Canis Ponticus*, but *Canis Fluvialis*, is another Beast, as we shall manifest in the succeeding discourse of an Otter: and the reason why in *Latine* it is called *Fiber*, is, because (as *Varro* saith) it covereth the sides, banks, or extremities of the river, as the extremities or laps of the ear and liver are called *Fibrae*, and the skirts of garments *Fimbriae*: but the reason why the *Gracians* call it *Castor*, is not as the *Latines* have supposed, because it biteth off his own stones, *quasi castando seipsum*, as shall be manifested soon after, but of *Castando*, because for the stones thereof it is hunted and killed; or rather of *Gaster*, signifying a belly, for that the body is long and almost all belly; or rather because of the colour & ill savour thereof. This Beaver is no other then that which *Aristotle* calleth *Latan*, and it differeth from an Otter only

The notation of Fiber from the *Latine*.
The notation of the *Greek* word *Castor*.
What manner of Beast a Beaver is.

colour
hooks
sharp
hard
beast
hold
son
mon



colour yellowish red, wherewith they defend themselves against beasts, take fishes as it were upon hooks, and will gnaw in sunder trees as big as a mans thigh: they have also grinding teeth very sharp, wherein are certain wrinkles or folds, so that they seem to be made for grinding some hard substance, for with them they eat the rindes or bark of trees; wherefore the biting of this beast is very deep, being able to crash asunder the hardest bones, and commonly he never loseth his hold, untill he feeleth his teeth gnash one against another. *Pliny* and *Solinus* affirm, that the person so bitten cannot be cured, except he hear the crashing of the teeth; which I take to be an opinion without truth.

in the tayl. Some compare a Beaver with a Badger, but they attribute to him a longer body and smother hair, but shorter and softer then a Badgers: their colour is somewhat yellow and white, asperfed with ash-colour, which stand out beyond the shorter hairs, double their length: they are neat and soft like unto an Otters, and the hairs length of the one and others colour, is not equal. Some have seen them brown declining to black, which *Albertus* preferreth, and *Silvius* affirmeth, that his long hairs are like a Dogs, and the short ones like an Otter. They are most plentiful in *Pontus*, for which cause it is called *Canis Ponticus*; they are also bred in the Rivers of *Spain*, and in the River *Marn* in *France*; *Padus*, in *Italy*; in *Savoy*, in the Rivers *Isara* and *Rhoan*, and in the Island called *Camargo*, and in *Helvetia*, neer *Arula*, *Urja* and *Limagus*: Likewise throughout all *Germany*, *Polonia*, *Sclavonia*, *Russia* and *Prussia*: and there are Beavers in the woods of *Mosco* and *Lituania*, of excellent perfection and stature above others, having longer white hairs which glister above other. These beasts live both in the water and on the land, for in the day time they keep the water, and in the night they keep the land, and yet without water they cannot live, for they do participate much of the nature of fishes, as may be well considered by their hinder legs and tail.

Their quantity is not much bigger then a Countrey Dog, their head short, their ears very small and round, their teeth very long, the under teeth standing out beyond their lips three fingers breadth, and the upper about half a finger, being very broad, crooked, strong and sharp, standing, or growing double very deep in their mouth, bending compass like the edge of an Axe, and their

Countrey of
breed.

Albertus.

There are land
and water Bea-
vers.

Their several
parts.

Silvius.

Bellonius.

They

They have certain hairs about their mouth, which seem in their quantity or bigness to be rather horn they are so hard, but their bones are most hard of all and without marrow: Their forefeet are like a Dogs, and their hinder like a Gooses, made as it were of purpose to go on the land, and swim in the water, but the tail of this beast is most strange of all, in that it cometh nearest to the nature of fishes, being without hair, and covered over with a skin like the scales of fish, it being like a foal, and for the most part six fingers broad and half a foot long, which some have affirmed the beast never pulleth out of the water; whereas it is manifest, that when it is very cold, or the water frozen he pulleth it up to his body, although *Agricola* affirm, that his hinder legs and tail, freeze with the water; and no lesse untrue is the assertion, that they compell the Otter in time of cold and frost, to wait upon their tail, and to trouble the water so that it may not freeze round about them; but yet the Beaver holdeth the Otter in subjection, and either overcometh it in fight, or killeth it with his teeth.



This tail he useth for a stern when he swimmeth after fish to catch them. There hath been taken of them whose tails have weighed four pound weight, and they are accounted a very delicate dish, for being dressed they eat like Barbles: they are used by the *Lotbaringians* and *Savoyans* for meat allowed to be eaten on fish-dayes, although the body that beareth them be flesh and unclean for food. The manner of their dressing is, first roasting, and afterward seething in an open pot, that so the evill vapor may go away, and some in pottage made with Saffron; other with Ginger, and many with Brine; it is certain that the tail and forefeet tast very sweet, from whence came the Proverbe, *That sweet is that fish, which is not fish at all.*

Bellonius.
Their building
of Dens.

These beasts use to build them Caves or Dens neer the Waters, so as the Water may come into them, or else they may quickly leap into the water, and their wit or natural invention in building of their Caves is most wonderful: for you must understand that in the night time they go to land, and there with their teeth gnaw down boughes and trees which they likewise bite very short fitting their purpose, and so being busied about this work, they will often look up to the tree when they perceive it almost afunder, thereby to discern when it is ready to fall, lest it might light upon their own pates: the tree being down and prepared, they take one of the oldest of their company, whose teeth could not be used for the cutting, (or as others say, they constrain some strange Beaver whom they meet withal) to fall flat on his back (as before you have heard the Badgers do) and upon his belly lade they all their timber, which they so ingeniously work and fasten into the compasse of his legs that it may not fall, and so the residue by the tail, draw him to the water side, where these buildings are to be framed: and this the rather seemeth to be true, because there have been some such taken, that had no hair on their backs, but were pilled; which being espied by the hunters, in pity of their slavery, or bondage, they have let them go away free.

Albertus.
Olaus Mag.

Albertus.

A secret.

These beasts are so constant in their purpose, that they will never change the tree that they have once chosen to build withal, how long time so ever they spend in biting down the same: it is likewise to be observed, that they never go to the same, during the time of their labour, but in one and the same path, and so in the same return to the water again. When they have thus brought their wood together, then dig they a hole or ditch in the bank side, where they underfet the earth to bear it up from falling, with the aforesaid timber; and so they proceed, making two or three rooms like several chambers, one above another, to the intent that if the water rise they may go further, and if it fall they may descend unto it. And as the husbandmen of *Egypt* do observe the buildings of the Crocodile, so do the inhabitants of the Countrey where they breed, observe the Beavers, that when they build high, they may expect an inundation, and sow on the Mountains; and when they build low, they look for a calm or drought, and plow the vallies. There is nothing so worthy in this beast as his stones, for they are much sought after and desired by all Merchants, so that they will give for them any great price.

There is both in male and female, certain bunches under their belly as great as a Gooses egge, which some have unskilfully taken for their cods, & between these is the secret or privie part of both sexes; which tumours or bunches are nothing else, but a little fleshie bag within a little thin skin, in the middle whereof is a hole or passage, out of the which the beast sucketh a certain liquor, and after-

ward

ward therewith anointeth every part of her body that she can reach with her tongue. Now it is very plain that these bunches are not their cods, for these reasons; Because that there is no passage either of the seed into them, or from them into the yard: Besides, their stones are found within their body; neither ought this to seem strange, seeing that Hares have the like bunches, and also the *Moschus* or *Musk-cat*: the female hath but one passage for all her excrements, and to conceive or bring forth young ones.

The cods or
stones of the
beast.
Rondoleius.

It hath been an opinion of some, that when a Beaver is hunted and is in danger to be taken, she biteth off her own stones, knowing that for them only her life is sought, which caused *Alcians* to make this Emblem,

*Et pedibus segnis, tumida & propendulus aluo,
Hac tamen insidias effugit arte fiber:
Mordicus ipse sibi medicata virilia vellit:
Atque abjicit sese gnarus ob illa peti.
Hujus ab exemplo disces non parcere rebus,
Et vitam ut redimas hostibus era dare.*

The Beaver
doth not bite
off her own
stones.

Teaching by the example of a Beaver, to give our purse to thieves, rather than our lives, and by our wealth to redeem our danger, for by this means the Beaver often escapeth. There have been many of them found that wanted stones, which gave some strength to this error, but this was exploded in ancient time for a fable; and in this and all other honest discourses of any part of Philosophy, the only mark whereat every good student and professor ought to aime, must be verity and not tales; wherein many of the ancient have greatly offended (as is manifested by *Marcellus Virgilius*) especially *Plato*: and this poyson hath also crept into and corrupted the whole body of Religion. The *Egyptians* in the opinion of the aforesaid *Castration*, when they will signifie a man that hurteth himself, they picture a Beaver biting off his own stones. But this is most false, as by *Sertius*, *Plinius*, *Dioscorides*, and *Albertus*, is manifested. First, because their stones are very small, and so placed in their body as are a Boars, and therefore impossible for them to touch or come by them. Secondly, they cleave so fast unto their back, that they cannot be taken away, but the beast must of necessity lose his life; and therefore ridiculous is their relation, who likewise affirm, that when it is hunted (having formerly bitten off his stones) that he standeth upright and sheweth the hunters that he hath none for them, and therefore his death cannot profit them, by means whereof they are averted and seek for another.

Herus.
An emblem.

These Beavers eat fish, fruits, and the bitter rindes of trees, which are unto them most delicate, especially Aldern, Poplar, and Willow; whereupon it is proverbially said, of one that serveth another for gain: *Sic me subes quotidie ut fiber salicem*, you love me as the Beaver doth the Willow, which eateth the bark and destroyeth the tree.

Their food.

They are taken for their skins, tails, and cods, and that many wayes; and first of all when their Calves are found, there is made a great hole or breach therein, whereinto is put a little Dog, which the beast espying, flyeth to the end of her den, and there defendeth her self by her teeth, till all her structure or building be rased, and she laid open to her enemies, who with such instruments as they have preset, beat her to death: some affirm that she rouseth up her body, and by the strong savour of her stones she driveth away the Dogs, which may be probable, if the stones could be seen. These Dogs are the same which hunt wild fowl and Otters.

Their cause of
taking.

It is reported that in *Prussia* they take them in bow-nets, baited with the rinde of trees, whereinto they enter for the food, but being entrapped cannot go forth again. They cannot dive long time under water but must put up their heads for breath, which being espied by them that beset them, they kill them with gun-shot, or pierce them with Otters speares, so that one would think seeing such a one in the water, that it was some hairy kind of fish; and his nature is, if he hear any noise to put his head above water, whereby he is discovered and loseth his life. His skin is pretious in *Polonia*, either for garment, or for Gloves, but not so pretious as an Otters, yet it is used for the edging of all other fur garments, making the best shew and enduring longest; they are best that are blackest, and of the bellies which are like felt wool, they make caps and stockings against rain and foul weather.

Agricola.

The medicinall vertues of this beast are in the skin, the urine, the gall and the cods: and first, a garment made of the skins, is good for a Paralytick person; and the skins burned with dry Onions and liquid pitch, stayeth the bleeding of the nose, and being put into the soles of shooes easeth the Gowt. The urine preserved in the bladder, is an antidote against poyson: and the gall is profitable for many things, but especially being turned into a glew it helpeth the falling evill. The genitals of a Beaver are called by the Physicians *Castoreum*, and therefore we will in this discourse use that word for expressing the nature, qualities, remedies, and miraculous operation thereof, wherefore they must be very warily and skilfully taken forth, for there is in a little skin compassing them about a certain sweet humor (called *Humor Melleus*) and with that they must be cut out, the utter skin being cut asunder to make the more easie entrance, and the Apothecaries use to take all the fat about them, which they put into the oil of the *Castoreum*, and sell it unto fisher-men to make bait for fishes. The females have stones or *Castoreum*, as well as the males, but very small ones. Now you must take great heed to the choise of your Beaver, and then to the stones which

The
vertu
Albertus.
Actius.
Pliny.
Pliny.

Hermolaus.
The corrup-
ting of *Casto-*
reum.

must grow from one root conjoynd, otherwise they are not precious, and the beast must neither be a young one nor one very old, but in the mean betwixt both, being in vigor and perfection of strength.

The Beavers of *Spain* yeeld not such virtuous *Castoreum* as they of *Pontus*, and therefore if it be possible, take a *Pontique* Beaver, next one of *Gallatia*, and lastly of *Africk*. Some do corrupt them putting into their skin Gum and *Ammoniack* with blood, other take the reins of the beast, and so make the *Castoreum* very big, which in it self is but small. This beast hath two bladders, which I remember not are in any other living creature, and you must beware that none of these be joynd to the *Castoreum*. You may know if it be mingled with *Ammoniack* by the tast, for although the colour be like, yet is the savour different. *Platearius* sheweth, that some adulterate *Castoreum*, by taking off his skin, or some cod newly taken forth of another beast, filling it with blood, sinews and the powder of *Castoreum*, that so it may not want his strong smell or savour: other fill it with earth and blood: other with blood, rosen, gum, sinews and pepper, to make it tast sharp: but this is a falsification discernible, and of this sort is the *Castoreum* which is sold in *Venice*, as *Brasavala* affirmeth: and the most of them sold at this day are bigger then the true *Castoreum*, for the just weight of the right stones is not above twelve ounces and a half, one of them being bigger then the other, being six fingers breadth long, and four in breadth. Now the substance contained in the bag is yellowish, solid like wax, and sticking like glew, not sharp and cracking betwixt the teeth (as the counterfeit is). These stones are of a strong and stinking savour, such as is not in any other, but not rotten and sharp, as *Grammarians* affirm; yet I have smelled of it dried, which was not unpleasant, and things once seasoned with the savour thereof, will ever tast of it, although they have not touched it, but lie covered with it in the same box or pot; and therefore the *Castoreum* of *Persia* is counterfeit, which hath no such smell, for if a man smell to the right *Castoreum*, it will draw blood out of his nose.

After it is taken forth from the beast, it must be hung up in some place to be dried in the shadow, and when it is dry, it is soft and white: it will continue its strength six years, and some say seven; the *Persians* affirm, that their *Castoreum* will hold its virtue ten years, which is as false as the matter they speak of is counterfeit. *Archigenes* wrote a whole book of the virtue of this *Castoreum*, whereunto they may resort, that require an exact and full declaration of all his medicinal operations: it shall only be our purpose, to touch some general heads, and not to enter into a particular discovery thereof.

The dangers
in the use of
Castoreum,
Cervinus.

Being so dried as is declared, it must be warily used, for it falleth out herein as in other medicinal subjects, that ignorance turneth a curing herb or substance, into a venemous and destructive quality; therefore we will first of all set down the dangers to be avoided; and afterward some particular cures that come by the right use of it. Therefore it must be understood that there is poyson in it, not naturally, but by accident, as may be in any other good and wholesome matter: and that especially in the smell or savour thereof, whereunto if a woman with childe do smell, it will kill the childe unborn and cause abortment; for a womans womb is like a creature, nourished with good favours, and destroyed with evil: therefore burning of feathers, shoo-soles, woollen clothes, pitch, *Galbanum*, gum, onions, and garlicke is noysom to them. It may be corrupted not only as is before declared; but also, if it be shut up close without vent into pure aire, when it is hanged up to be dried, or if the bag be kept moist, so that it cannot dry; and it is true (as *Avicen* saith) that if it be used being so corrupted, it killeth within a dayes space, driving one into madness, making the sick person continually to hold forth his tongue, and infecting him with a Fever by inflaming the body, loosing the continuity of the parts, through sharp vapors arising from the stomach: and for a proof that it will inflame, if you take a little of it mingled with oil, and rub upon any part of the body, or upon your nail, you shall feel it.

But there is also a remedy for it being corrupted; namely, Asses milk mingled with some sharp syrup of *Citron*, or if need require, drink a dram of *Philons* Antidote at the most, or take butter and sweet water which will cause vomit, and vomit therewith so long, as you feel the savour of the stone, and afterward take syrup of *Limmons* or *Citrons*: and some affirm upon experience, that two penny weight of *Coriander-seed*, scorched in the fire, is a present remedy for this evil. And it is most strange, that seeing it is in greatest strength, when the savour is hottest, which is very displeasing to a mans nature in outward appearance, yet doth it never harm a man taken inwardly, (being pure and rightly compounded) if the person be without a Fever, for in that case only it doth hurt inwardly, otherwise apply it to a moist body lacking refrigeration, or to a cold body wanting exaltation, or to a cold and moist body, you shall perceive an evident commodity thereby, if there be no Fever: and yet it hath profited many where the Fever hath not been over hot, as in *Extasies* and *Lethargies*, ministred with white Pepper, and *Melicrate*, and with *Rose* cakes laid to the neck or head. The same virtues it hath being outwardly applyed and mingled with oil, if the bodies be in any heat, and purely without oil, if the body be cold, for in heating it holdeth the third degree, and in drying the second. The manner how it is to be ministred is in drink, for the most part, the sweet liquor being taken from it, and the little skins appearing therein cleaned away, and so it hath among many other these operations following. Drunk with Vinegar, it is good against all venom of Serpents, and against the *Chameleon*, but with this difference, against the *Scorpion* with wine, against *Spiders* with sweet water, against the *Lizzards* with Myrtite, against *Dipsas* and *Cerafies*, with *Oponax*, or wine made of *Rex*, and against other Serpents with wine simply.

Take

Take of every one two drams, for a cold take it a scruple and a half in four cups of wine, used with *Ladanum*, it cureth the Fistulae and Ulcers, provoking sneezing by smelling to it; procureth sleep, they being anointed with it; Maiden-weed and Conserve of Roses, and being drunk in water, helpeth Phrensie, and with the Roses and Maiden-weed aforesaid, easeth head-ach; being laid to the head like a plaister, it cureth all cold and windy affections therein; or if one draw in the smoak of it perfumed, though the pain be from the mothers womb, and given in three cups of sweet Vinegar fasting, it helpeth the Falling sickness; but if the person have often fits, the same given in a Glyster, giveth great ease: Then must the quantity be two drams of *Castoreum*, one sextary of honey and oil, and the like quantity of water, but in the fit it helpeth with Vinegar by smelling to it. It helpeth the Palsie, taken in Rew or wine, sod in Rew, so also all heart trembling, ach in the stomach, and quaking of the sinews. It being infused into them that lie in Lethargies with Vinegar and Conserve of Roses doth presently awake them, for it strengthneth the brain, and moveth iternutation. It helpeth oblivion coming by reason of sickness, the party being first purged with *Hiera Ruffi*, *Castoreum*, with oil bound to the hinder part of the head, and afterward a dram drunk with *Melicerate*, also taken with oil, cureth all Convulsion proceeding of cold humors, if the Convulsion be full and perfect, and not temporal or in some particular member, which may come to passe in any sickness.

*Castoreoq; gra-
vi mulier sopita
recumbit.*

The same mixed with hony helpeth the clearness of the eyes, and their inflammations; likewise used with the juice of Popy, and infused to the ears, or mixed with hony, helpeth all pains in them. With the seed of Hemlocks beaten in Vinegar, it sharneth the sense of hearing, if the cause be cold, and it cureth toothach infused into that ear with oil on which side the pain resteth; for *Hippocrates* sent unto the wife of *Assafius* (complaining of the pain in her cheek and teeth) a little *Castoreum* with Pepper, advising her to hold it in her mouth betwixt her teeth. A perfume of it drawn up into the head and stomach, easeth the pains of the lights and intrails, and given to them that sigh much with sweet Vinegar fasting, it recovereth them. It easeth the Cough, and distillations of rhume from the head to the stomach, taken with the juyce of black Popy. It is preservative against inflammations and pains in the guts or belly (although the belly be swoln with cold windy humors) being drunk with Vinegar, or *Oxyerate*; it easeth the Colick being given with Annis beaten small, and two spoonfuls of sweet water; and it is found by experiment, that when a horse cannot make water, let him be covered over with his cloth, and then put underneath him a fire of coals, wherein make a perfume with that *Castoreum* till the Horses belly and cods smell thereof, then taking away the coals, walk the horse up and down covered, and he will presently stale.

Vegetius;

To soften the belly they use *Castoreum* with sweet water two drams, and if it be not forcible enough, they take the root of a set Cucumber one dram, and the some of Salt Peter two drams. It is also used with the juice of Withy and decoction of Vinegar applyed to the reins and genital parts like a plaister against the *Gonorrhean* passion. It will stir up a womans monethly courses, and cause an easie travail, two drams being drunk in water with Penny-royal. And if a Woman with childe go over a Beaver, she will suffer abortment; and *Hippocrates* affirmeth, that a perfume made with *Castoreum*, Asses dung, and Swines grease, openeth a closed womb.

A secret;

There is an Antidote called *Diacostu*, made of this *Castoreum*, good against the Megrim, Falling sickness, Apoplexies, Palsies, and weakness of lims, as may be seen in *Myrepsus*: against the impotency of the tongue, trembling of the members, and other such infirmities. These vertues of a Beaver thus described, I will conclude this discourse with a History of a strange beast like unto this, related by *Dunranus Campus-bellus* (a noble Knight) who affirmed, that there are in *Arcadia*, seven great lakes some 30 miles compas, and some lesse, whereof one is called *Garloil*, out of which in Anno 1510 about the midst of Summer, in a morning, came a beast about the bigness of a water Dog, having feet like a Goose, who with his tail easily threw down small trees, and presently with a swift pace he made after some men that he saw, and with three strokes he likewise overthrew three of them, the residue climbing up into trees escaped, and the beast without any long tarrying, returned back again into the water, which beast hath at other times been seen, and it is observed, that this appearance of the Monster, did give warning of some strange evils upon the Land: which story is recorded by *Hector Boethius*.

A miraculous
History of a
Monster.

Of the BISON.

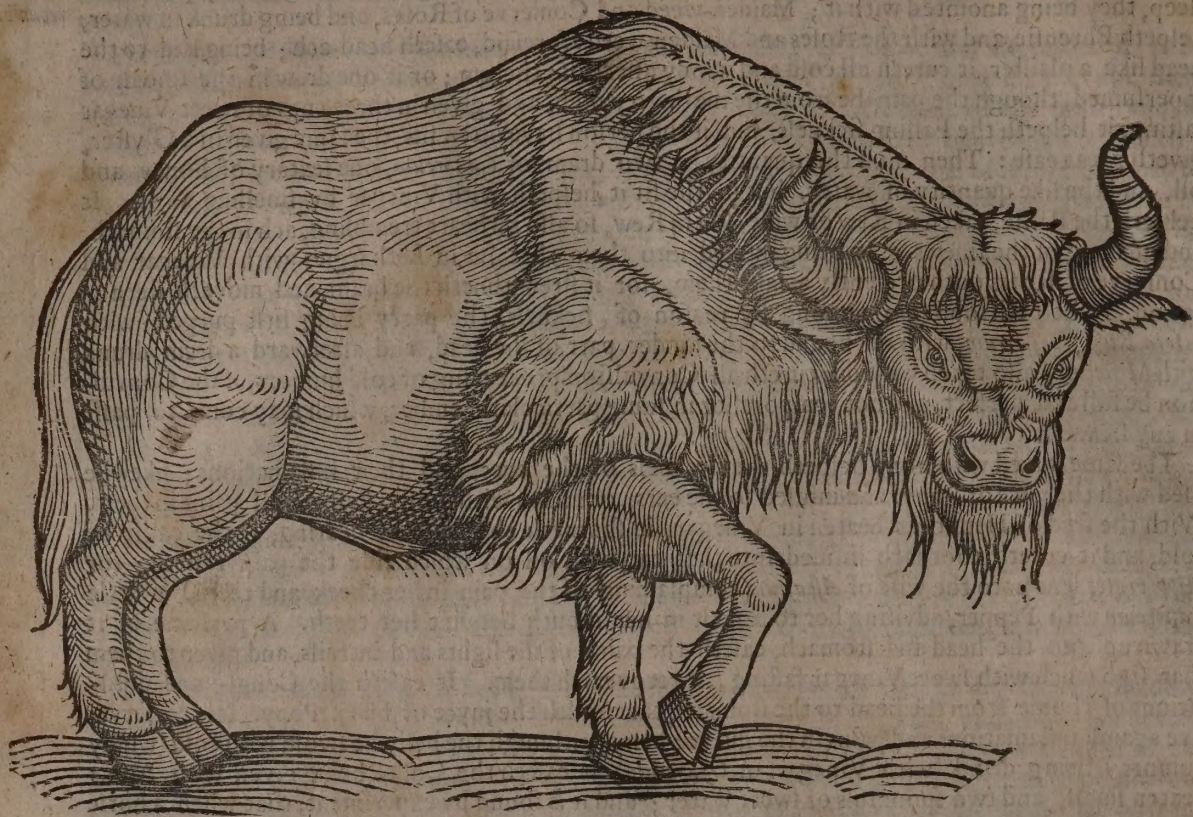
A Bison called of some *Latins*, though corruptly, *Urson*, and *Veson*; of the *Grecians*, *Bisoon*; of the *Lituanians*, *Suber*; of the *Polonians*, *Zuber*, from whence some *Latins* derived *Zubro*, for a Bison. Of the *Germans*, *Visent*, and *Vesent*, and *Wisent*: a beast very strange as may appear by his figure prefixed, which by many Authors is taken for *Urus*, some for a Bugil, or wilde Ox; other for *Rangifer*, and many for the beast *Tarandus* a *Buffe*. By reason whereof there are not many things, which can by infallible collection be learned of this beast among the writers; yet it is truly and generally held for a kind of wilde Ox, bred in the Northern parts of the World for the most part, and never tamed, as in *Scythia*, *Moscovia*, *Hercynia*, *Thracia*, and *Prussia*. But those tall wilde Oxen which are said to be in *Lapponia*, and the Dukedom of *Angermannia*, are more truly said to be *Uri*, as in their story shall be afterward declared. Their name is taken from *Thracia*, which

Of the name,

Place of their
breed.

Philostephan.

The reason of
their name.



Varinus.

Stephanus.

A secret in the
Lake *Dicaea*.

Several kindes.

The great Bi-
son.

The several
parts.

The strength
of this Beast.

The quantity
of Bisons.

The strength
of their tongue.

The flesh of
this Beast.

Bonarus.

Baro.

A secret in the
inward heat of
this beast.

Their hunting

was once called *Bifonia*, and the people thereof *Bifones*, from *Bisto* the Son of *Cicco* and *Terpsichore*; and thereof came *Bifonia Grues*, cranes of *Thracia*, and *Bifonia Lacus*, for the lake or sea of *Dicaea*, near *Abdera*, where never living thing, or other of lesse weight was cast in but it presently sunk and was drowned.

This Bison is called *Taurus Paonicus*, the *Paonian-Bull*, whereof I finde two kinds, one of greater, and another of lesser size, called the *Scotian*, or *Calydonian Bison*, whereof you shall see the picture and qualities at the foot of this History.

The greater is as big as any Bull or Oxe, being maned about the neck and back like a Lion, and hath hair hanging down under his chin or neather lip like a large beard: and a rising or little ridge down along his face, beginning at the height of his head, and continuing to his nose very hairy; his horns great and very sharp, yet turning up towards his back, and at the points hooked like the wilde Goats of the Alpes, but much greater: they are black of colour, and with them through the admirable strength of his neck can he toss into the air, a horse and horseman both together. They are as big as the *Dextarii* which are the greatest *Stallions* of *Italy*. Their face looketh downward, and they have a strange strength in their tongue, for by licking they grate like a file any indifferent hard substance, but especially they can therewith draw unto them any man or beast of inferior condition, whom by licking they wound to death.

Their hair is red, yellow, or black, their eyes very great and terrible; they smell like a *Moschus* or *Musk-cat*, and their mane reacheth over their shoulders, shaking it irefully when he brayeth; their face or forehead very broad, especially betwixt their horns, for *Sigismund* King of *Polonia*, having kild one of them in hunting, stood betwixt his horns, with two other men not much lesser in quantity then himself, who was a goodly well proportioned and personal Prince.

There are two bunches on his back, the former near his shoulders, which is the higher, and the other near the rump, which is somewhat lower. I have seen the horns of a Bison, which was in the hands of a Goldsmith to rip with silver and gilt, that it might be fit to drink in: it did bend like the talon of an Eagle or Gryphin, or some ravenous bird. The flesh in Summer time is most fat, but it tasteth so much of wilde Garlick, or Ramsens, that it is not pleasant to eat, being full of small veins and strings, and is accounted a noble and strong kind of flesh: the blood is the most purest in the world, excelling in colour any purple, and yet for all that it is so hot, that being let forth when the Beast dyeth, within two houres space it putrefieth, and the flesh it self in the coldest Winter will not keep sweet many hours, by reason of the immoderate heat thereof, if the Hunter do not after the fall of the beast, separate from it the intrails: and which is most strange of all, being pierced alive with any hunting spear, dart, or sword, the weapon by the heat of the body is made so weak and soluble, that it cometh forth as flexible as lead: and to conclude, it is a most noble and fierce spirited beast, never afraid, or yeelding till breath faileth, neither can he be taken with any nets or gins, untill they be thoroughly wearied: wherefore they which hunt him, must

be

be very strong, nimble and skilful men, or else that sport will be their own undoing and overthrow.

Therefore when they go to hunt this Bison, they choose a place replenished with large trees, neither so great that they cannot easily wind about them, nor so little that they shall not be able to cover their bodies from the horn or tongue of the beast: behind which the hunters place themselves out of sight: and then the Dogs rouse up the beast, driving him to that place where the hunters stand; whom the beast first espyeth, to him he maketh force, who must warily keep the tree for his shield, and with his spear wound him where he can, who will not fall without many mortal strokes, but waxe more and more eager, not only with horn but with tongue, for if he can but apprehend any part of the hunters garment with his tongue, he loseth no hold but draweth him unto him, and with his horn and feet killeth him: but if the fight be long, and so the hunter wearied and out of breath, then doth he cast a red cap unto the beast, who maketh at it with head and feet, never leaving till it be all in pieces; and if another come to help him as hunters must, if they will return alive, then shall he easily draw the beast to combate, and forsake the first man, if he cry *Eu-lu-lu*.

Pausanias sheweth how these Bisons are taken alive, in this sort. The hunters (saith he) chuse out some steep and slippery down hill, whereupon they lay skins of beasts newly taken off, and if they want such, then anoint they old skins with oil, and so leave them spread upon those steeping or bending passages; then raise they the beasts, and with Dogs and other means on horseback drive them along to the places where they laid their hides, and as soon as they come upon the skins they slip and fall down, rowling headlong till they come into the valleys, from whence they constrain them back again some other way, three or four times a day, making them fall down the hills as aforesaid; and so wearying them with continual hunting, and fasting. At the last they come unto them, when they are no more able to rise for faintness, and give them Pine-apples taken out of the shels, (for with that meat are they delighted) and so while they eagerly feed and lie weary on the ground, they intail them in bands and manacles, and lead them away alive. The medicines coming from this beast may be conjectured to be more forcible, then of common and ordinary Oxen, but because they were not known to the *Grecians* and *Arabians*, and we finde nothing recorded thereof; we will conclude the story of this great Bison, with good opinion of the virtues, though we are not able to learn or discover them to others.

Sigism. Baro.

*In Phocis:
How Bisons
are taken alive;*

*The medicines
not known;*

Of the white SCOTIAN BISON.



IN the Woods of Scotland, called *Callender* or *Caldar*, and in ancient time *Calydonia*, which reacheth from *Monteth* and *Erunal*, unto *Atholia* and *Loquababria*, there are bred white Oxen, maned about the neck like a Lyon, but in other parts like ordinary and common Oxen. This wood was once full of them, but now they are all slain, except in that part which is called *Cummirnald*. This beast is so

*Places where
these Bisons
abide,*

The nature of this Bison, is hateful and fearful of mankind, that it will not feed of that grasse or those hearbs, whereof he favour-eth a man hath touched, no not for many days together; and if by art or policy they happen to be taken alive, they will die with very sullen grief. If they meet a man, presently they make for to eat him, fearing neither Dogs, Spears, nor other weapons. Their flesh is very pleasant, though full of sinews, and very acceptable to the greatest Nobles, for which cause they are grown to a small number; their qualities being like to the former beast, excepting their colour and beard, I will term them a white *Galydonian*, or *Scotian BISON*.

BONASUS, the figure of the Head and Horns.

Of the name.

TH's beast is called in Greek *Bonafos*, and in Latin, *Bonafus*, and is also called *Monopios*, or *Monopios*, and once in *Aristotle*, *Bolintus*, the *Bohemians*, *Lali*, now the *Germans* & *English* call the long hair about the neck of any beast, a *Mene* or *Mane*, from whence cometh this word *Monapios*, which signifieth a maned Ox. This *Bison* is the greatest beast, Bull or Ox, though it be shorter in length, yet are the sides larger and broader then all other.

The reason of the name *Monapios*.

Places of their breed.

They are bred in *Paonia* in the mountain *Mesapus*, not in *Lydia* and *Phrygia*, as *Solinus* and *Albertus* have delivered; being deceived, because the *Peonians* were joyned with the *Medians* which they derive from *Madi* a people of *Asia*, whereas the *Peonians* and *Medi* in *Pliny*, (as is observed by *Hermelaus* in his *Castigations of Pliny*) are a people of *Thracia* in *Europe*: so called of *Peon* the Son of *Endymion* and brother of *Epeus*, who was seated near the river *Axius* in *Macedonia*: for it was agreed

Pausanias.



betwixt the two brethren striving for the kingdom, that he which was overrun by the other, should yeeld the kingdom in quietness to his brother.

The head of this beast is like the head of an Ox or Bull, his horns bending round to the sides of the cheek, by reason whereof he hath no defence by them, neither can a man be hurt that is cast upon them. His neck is very thick with a large mane, from his eyes down to his shoulders in length like an Horses, but the hair thereof is much softer, and lyeth more smoothly, the uppermost hairs being harsher, and the undermost softer like wool. Their colour betwixt red and ash colour, but black and yellow appeareth not in them. They have no upper teeth, in this point resembling an Ox and other horned beasts, their horns being in compass about nine inches and somewhat more, are very smooth and black like varnish. Their voice is like the voice of an Ox, their legs all hairy, and their feet cloven, their tail too short for the other members of the body like a Bugles, their back stretched out at length, is as long as a seat for seven men; their flesh is very sweet, for which cause he is much sought for in hunting; he will with his feet dig up the ground like an Ox or Bull in his rage; when he is once struck, he flyeth away, fighting with his heels backward; and whereas nature hath denyed him the benefit of horns, which other beasts have, so that he is only adorned and not armed by those weapons, like a Souldier that cannot draw forth his Sword; she hath given him the secret operation of his dung, which in his chase he casteth forth of his body so plentifully upon the Dogs or other that pursue him, by the space of four paces backward, that he stayeth their course, and the heat of his dung is so admirable, that it scorcheth or burneth the hair or skin of any beasts or men that hunt him: neither hath this fine such vertuous operation at any other time, but only when the beast flyeth, being hunted and pursued for life, at other times it lying quiet, there is no such virtue therein: neither ought this to seem incredible, seeing many other beasts in their chase, have the like or at the least do then eject their excrement more plentifully and noisomly then at other times: as the *Cuttell-fish*, for when in chase the intrails are heated, and the passage somewhat restrained, so that the holding in of breath breedeth more wind in the guts, it may very naturally chance, the excrement being with the inclosed wind and heat sent forth by violent eruption, that it may flie far backward, and also burn as aforesaid. These beasts Calve in the Mountains, and before that time cometh she chuseth a place, which she walleth in with the abundance of her own dung, so high as it may cover her young one, for there is no beast that is naturally so full of excrement as a *Bonasus*. Their ears are very broad as the Poet saith, *Patulae cornibus aures*, broad ears, under crooked winding blunt horns; the skin is so large, that it hath covered a good part of a house, the inward colour whereof is like the earth whereon the beast did use to feed. That excellent Physitian of England *John Cay*, did send me the head of this beast, with this description, in an Epistle, saying.

His parts.

Aristotle.

His flesh, and disposition to anger.

His sight in flying.

The secret operation of his dung.

The reason of the heat and operation of their excrement.

Their place and succour for Calving.

The relation of John Cay, Doctor of Physick in England.

"I Send unto thee the head of a great wilde beast, the bare mouth and the bones supporters of the horns being very weighty, and therefore bearing up some like heavy burden, the horns are recurved and bending backward, so that they do not spire directly downward but rather forward, though in a crooked manner, which because it could not appear forward, as they do when the beast is alive, therefore they are described turning on the one side: the space betwixt the horns or breadth of the forehead, is three Roman palms and a half; the length of the horns, three palms one finger and a half; and their compass where they are joyned to the head, is one foot one palm and a half. In the Castle of *Warwick* where are preserved the Armor and Spear of one Earl *Guy* of *Warwick* a most valiant strong man, I have seen the head of a beast not unlike to this, saying that if the bones whereon the horns grow should be joyned together, then would the horns be longer, and of another crooked fashion. And in the same place there is also the neckbone of the same beast, the compasse thereof is at the least three Roman feet two palms and a half, whereunto I may also add that shoulder-blade which hangeth on the North gate of the City of *Coventry*, being in the lowest part three foot broad and two fingers, and four foot long and two palms: and the compasse of the arme hole wherein the shoulder is joyned, is three foot and one palm, and the whole compasse of them both in breadth and length, is eleven foot one palm and a half. In the Chappel of the said great *Guy*, distant from *Warwick* about one thousand paces (or a mile) there hangeth a rib of this beast (as I suppose) the compasse whereof in the smallest place is three palms, and in length it is six foot and a half, the rib is dry and rotten in the superficies thereof. The vulgar people affirm, that it is the peece of a Boar, which was slain by Earl *Guy*; other say, by tradition of their elders, that it is a piece of a wilde Cow remaining neer *Coventry*, and did much harm to many people; which latter opinion I embrace, taking it for a *Bonasus*, who in most things is like a Cow, and therefore some affirm it is an *Indian Cow* (but ignorantly) because any thing that is not common is usually attributed to some strange Countrey breed (with an addition to that it most of all resembleth.) Thus far *D. Cay*.

Whereunto I assent, holding his conjectures to be very probable, untill by the diligent industry of some other, or my own eye-sight we may deliver to the world some more assured and perfect knowledge in these kind of beasts. Exhorting in the mean season all learned men, to discover more exactly their present or future knowledge herein, to the high benefit of all them that are diligent students in this part of Gods creation.

Of the *BUFFE*.

Of the name
and kind of
Buffes,

A Buffe is called in *Greek*, *Tarandos*; and in *Latine*, *Tarandus*; which some have corrupted barbarously, tearing it *Parandrus* and *Pyradus*; and I conjecture that it is the same beast, which the *Polonians* call *Tur* or *Thuro*; howsoever other confound this *Tarandus* with another beast, called *Rangifer*; and some with a kinde of *Urus*, which have many properties in common with a Buffe, yet my reason, why the *Polonian Tur* can be no other then a Buffe, is, because the head and mouth differeth from those beasts; and also because this is taken in *Sarmatia*, where the common people call it *Daran*, or *Darau*; although the later Writers call it *Duran* and *Duran*, and translate it a *Bonajus*, which can by no means agree with this beast; and the name of *Daran* is easily derived from *Tarandus*, or *Tarandos*.

Also that the *Polonian Tur* should not be a Buffe, all that can be objected, is, that the horns thereof are cragged or branched, which thing *Pliny* attributeth to a Buffe: whereunto I answer, that the Ancients did confound a Buffe with an Elk, and a *Rangifer*; for in the description of an Elk they vary, divers times mistaking one for another, by reason that they wrote altogether by report, none of them being seen in their Countries, and therefore may easily be deceived in a Buffe, as well as in an Elk. The chief Authors of this opinion have been *Sir Thomas Eliot*, and *Georgius Agricola*, with whom I will not contend, nor with any other man that can give better reason: for *Pliny* maketh a Buffe to be a beast proportioned betwixt an Hart and an Oxe, of which sort is not a *Rangifer*, as shall be manifested; and if it be, yet can it never appear that a *Rangifer* doth change colour like a Buffe, as also we will make more evident: So then distinguishing a Buffe from a *Rangifer*, and presuming that the *Polonian Thuro*, or *Tur*, is a Buffe; we will proceed to his description.

Pliny.
The several
parts.

Silvius.

Hesychius.

A miracle in
his colour.

The head of this beast is like the head of a Hart, and his horns branched or ragged; his body for the most part like a wilde Oxes, his hair deep and harsh like a Bears, his hide is so hard and thick, that of it the *Scythians* make breast-plates, which no dart can pierce through. His colour, for the most part, like an Asses, but when he is hunted or feared, he changeth his hew into whatsoever thing he seeth; as among trees he is like them; among green boughs he seemeth green; amongst rocks of stone, he it transmuted into their colour also; as it is generally by most Writers affirmed: as *Pliny* and *Silvius* among the Ancient; *Stephanus* and *Eustathius* among the later Writers.

This indeed is the thing that seemeth most incredible, but there are two reasons which draw me to subscribe hereunto: first, because we see that the face of men and beasts through fear, joy, anger, and other passions, do quickly change; from ruddy to white, from black to pale, and from pale to ruddy again. Now as this beast hath the head of a Hart, so also hath it the fear of a Hart, but in a higher degree; and therefore by secret operation it may easily alter the colour of their hair, as a passion in a reasonable man, may alter the colour of his face.

The same things are reported by *Pliny* of a beast in *India* called *Lycaon*, as shall be afterward declared; and besides these two, there is no other among creatures covered with hair, that changeth colour.

colour. Another reason forcing me to yeeld hereunto is, that in the Sea a *Polypus*-fish, and in the earth among creeping things, a *Chameleon*, do also change their colour in like sort and fashion: whereunto it may be replied, that the *Chameleon* and *Polypus*-fish, are pilled or bare without hair, and therefore may more easily be verse-coloured; but it is a thing impossible in nature, for the hair to receive any tincture from the passions: but I answer, that the same nature can multiply and diminish her power in lesser and smaller Beasts, according to her pleasure, and reserve an operation for the nails, and feathers of birds, and fins and scales of fishes, making one sort of divers colour from the other: and therefore may and doth as forcibly work in the hairs of a Buffe, as in the skin of a *Chameleon*; adding so much more force to transmute them, by how much farther off they stand from the blood, like as an Archer, which setteth his arm and bow higher to shoot farther, and therefore it is worthy observation, that as this beast hath the best defence by her skin above all other, so she hath a weakest and most timorous heart above all other.

These Buffes are bred in *Scythia*, and are therefore called *Tarandi Scythici*; they are also among the *Sarmatians*, and called *Budini*, and neer *Gelonis*, and in a part of *Poland*, in the *Duchy of Mazovia*, betwixt *Oszezke* and *Garwolin*. And if the *Polonian Thuro* before mentioned, have a name (whereof I am ignorant) then will I also take that beast for a kinde of *Bison*. In *Phrygia* there is a territory called *Tarandias*, and peradventure this beast had his name from that Countrey, wherein it may be he was first discovered and made known.

The quantity of this beast, exceedeth not the quantity of a wilde Ox, whereunto in all the parts of his body he is most like, except in his head, face, and horns: his legs and hoofs are also like an Oxes. The goodness of his hide is memorable, and desired in all the cold Countries in the world, wherein only these beasts and all other of strong thick hides are found, for the thinnest and most unprofitable skins of beasts, are in the hot and warmer parts of the world: and God hath provided thick, warm, most commodious, and precious covers for those beasts that live farthest from the Sun. Whereupon many take the hides of other beasts for Buffe, for being tawed and wrought artificially they make garments of them, as it is daily to be seen in *Germany*.

Countries of Buffes.

Stephanus.

The quantity or stature of a Buffe. The hide is most profitable to man.

Of the Vulgar BUGIL.

A Bugil is called in *Latine*, *Bubalus*; and *Buffalus*; in *French*, *Beufle*; in *Spanish*, *Bufano*; in *German*, *Buffel*; and in the *Illyrian* tongue, *Bouwel*. The *Hebrews* have no proper word for it, but comprehend it under *To*, which signifieth any kind of wilde Oxen; for neither can it be expressed by *Meriah*, which signifieth fatted Oxen; or *Bekarmi*, which signifieth Oxen properly; or *Jachmur*, which the *Persians* call *Kutzcobi*, or *Buzcobi*, and is usually translated a Wilde-Asse. For which beast the *Hebrews* have many words; neither have the *Græcians* any proper word for a vulgar Bugil, for *Boubatos* and *Boubatis*, are amongst them taken for a kinde of *Roe-buck*. So that this *Bubalus* was first of all some modern or barbarous term in *Affick*, taken up by the *Italians*, and attributed to this beast, and many other for whom they knew no proper names. For in the time of *Pliny*, they used to call strange beasts like Oxen or Bulls, *Uri*; as now a days (led with the same error, or rather ignorance) they call such *Bubali*, or *Buffali*. The true effigies of the vulgar Bugil, was sent unto me by *Cornelius Sittardus*, a famous Physitian in *Norimberg*; and it is pictured by a tame and familiar Bugil, such as liveth among men for labour, as it seemeth to me. For there is difference among these beasts, (as *Aristotle* hath affirmed) both in colour, mouth, horn, and strength.

The several names.

The Original of the term *Bubalus*.

This vulgar Bugil, is of a kinde of wilde Oxen, greater and taller then the ordinary Oxen, their body being thicker and stronger, and their limbs better compact together; their skin most hard, their other parts very lean, their hair short, small, and black, but little or none at all upon the tail, which is also short and small. The head hangeth downward to the earth, and is but little, being compared with the residue of his body; and his aspect or face betokeneth a tameable and simple disposition. His fore-head is broad and curled with hair, his horns more flat then round, very long, bending together at the top, as a Goats do backward: insomuch as in *Crete*, they make bows of them: and they are not for defence of the beast, but for distinction of kinde and ornament. His neck is thick and long, and his rump or neather part of his back is lower then the residue, descending to the tail. His legs are very great, broad and strong, but shorter then the quantity of his body would seem to permit. They are very fierce being tamed, but that is corrected by putting an Iron ring through his Nostrils, whereinto is also put a cord, by which he is led and ruled, as a Horse by a bridle (for which cause in *Germany* they call a simple man over-ruled by the advise of another to his own hurt, a Bugle, led with a ring in his nose.)

Of the vulgar Bugil and his parts.

Belonius. Use of their horns.

Erasmus.

His feet are cloven, and with the formost he will dig the earth, and with the hindmost fight like a Horse, setting on his blows with great force, and redoubling them again if his object remove not. His voyce is like the voyce of an Ox; when he is chased he runneth forth right, seldom winding or turning, and when he is angred, he runneth into the water; wherein he covereth himself all over, except his mouth, to cool the heat of his blood; for this beast can neither endure outward cold nor inward heat: for which cause, they breed not but in hot Countries, and being at liberty are seldom from the waters. They are very tame, so that children may ride on their backs; but on a sudden they will run into the waters, and so many times indanger the childrens lives.

Albertus. The manner of his fight. Nature of their breeding places.

Pet. Crescent.

Their

Of their
young ones
and milk.

Albertus.
Their strength
in labour.

Pet. Crescent.

Use of their
hides.

Bellonius.

Their love to their young ones is very great, they alway give milk from their copulation to their Calving; neither will they suffer a Calf of another kinde (whom they discern by their smell) to suck their milk, but beat it away if it be put unto them: wherefore their keepers do in such case, anoynt the Calf with Bugils excrement, and then she will admit her suckling.

They are very strong, and will draw more at once then two Horses; wherefore they are tamed for service, and will draw Waggon and Plows, and carry burdens also, but they are not very fit for Carts: yet when they do draw, they carry also great burthens or loads tyed to their backs with ropes and wantyghtes. At the first setting forward they bend their legs very much, but afterward they go upright, and being over-loden they will fall to the earth, from which they cannot be raised by any stripes untill their load or carriage be lessened. There is no great account made of their hides, although they be very thick: *Solinus* reporteth, that the old Britons made Boats of Osier twigs or reeds, covering them round with Bugils skins, and sayled in them: and the Inhabitants of the Kingdom of *Caraiani*, make them bucklers and shields of Bugils skins, which they use in Wars; the flesh is not good for meat, which caused *Baptista Fiera* to make this Poem:

*Bubalus hinc abeat, neve intret prandia nostra:
Non edat hunc quisquam: sub iuga semper eat.*

For they ingender melancholy, and have no good taste, being raw they are not unpleasant to behold, but sod or roasted they shew a deformed substance. The milk of this beast maketh very hard Cheefe, which tasteth like earth.

The physick
made out of
Bugils.

The medicines made of this beast are not many: with the horns or hoofs they make rings to wear against the Cramp, and it hath been believed (but without reason) that if a man or woman wear rings made of the horns or hoofs of a Bugil in the time of carnal copulation, that they will naturally fly off from their fingers; whereas this secret was wont to be attributed to rings of *Chrysolites* or *Smaragde* stones. To conclude, some teach husbandmen to burn the horns or dung of their Bugils on the windy side of their corn and plants, to keep them from Cankers and blasting: and thus much of the vulgar Bugil, called *Bubalus Recentiorum*: whose beginning in this part of the world is unknown, although in *Italy*, and other parts of *Europe* they are now bred and fostered.

Of the African BUGIL.

The Countrey
of this beast.

Bellonius reporteth, that he saw in *Cair* a small beast, which was in all things like a little Oxe, of a beautiful body, full of flesh, well and neatly limmed, which he could take for no other then the *African* Oxe, or Bugill of the old *Gracians*, which was brought out of the Kingdom of *Ajamia*, unto the City *Cair*; it was old, and not so big as a *Hart*, but greater then a *Roe*; he never in all his life took more pleasure to behold a beast, then in the viewing the excellent



beauty of every part in this creature. His hair was yellowish, glistering as if had been combed and trimmed by the art of a Barber, under his belly it was somewhat more red and tauny then upon his back. His feet in all things like a vulgar Bugils, his legs short and strong, the neck short and thick, whereon the two dew-laps of his crest did scarce appear. His head like an Oxes, and his horns growing out of the crown of his head, black, long, and bending like an half Moon; whereof he hath no use to defend himself, or any another, by reason their points turn inward. His ears like a Cows, and shoulder blades standing up a little above the ridge very strongly. His tail to the knees like a *Camelopardals*, from whence hangeth some few black hairs, twice so great as the hairs in a Horses tail. His voyce was like an Oxes, but not so strong and loud: to conclude therefore, for his description; if a man conceive in his minde a little yellow neat Oxe, with smooth hair, strong members, and high horns above his head, like a half Moon; his minde cannot erre from the true

true and perfect shape of this beast. There was such a one to be seen of late at *Florence*, under the name of an *Indian Oxe*, saving his head was greater and longer, his horns not high nor bending together, but standing up right, and a little wreathing into spires above their root, and the hinder part of the back much lower then the shoulders, but it may be the observer of this beast failed and took not the true description of it.

This creature or *African Bugil*, must be understood to be a wilde beast, and not of a tame kinde, although *Bellonius* expresth not so much. *Leo* in his description of *Africa*, relateth a discourse of a certain beast called *Laut*, or *Daut*, who is less then an Oxe, but of more elegant feature in his legs, white horns, and black nails, which is so swift, that no beast can out-run it, except a *Barbary Horse*: it is taken most easily in the Summer time: with the skin whereof they make targets and shields, which cannot be pierced by any weapon, except Gunshot; for which cause they sell them very dear; which is conjectured to be the *Bugil* that *Bellonius* describeth, although it be not just of the same colour, which may vary in this beast as well as in any other, and I have a certain *Manuscript* without the Authors name, that affirmeth there be *Bugils* in *Lybia*, in likeness resembling a Hart and an Oxe, but much lesser, and that these beasts are never taken asleep, which causeth an opinion that they never sleep; and that there is another *Bugil* beyond the *Alpes*, neer the River *Rhene*, which is very fierce and of a white colour.

The nature of this beast.

There is a horn in the Town-house of *Argentine* four *Roman* cubits long, which is conjectured to be the horn of some *Urus* (or rather as I think of some *Bugil*) it hath hung there at the least two or three generations, and by scraping it I found it to be a horn, although I forgot to measure the compass thereof, yet because antiquity thought it worthy to be reserved in so honourable a place for a monument of some strange beast, I have also thought good to mention it in this discourse: as when *Philip King of Macedon*, did with a dart kill a wilde Bull at the foot of the Mountain *Orbelus*, and consecrated the horns thereof in the Temple of *Hercules*, which were fifteen yards or paces long, for posterity to behold.

Of a strange horn in *Argentine*.

Of the BULL.



A Bull is the husband of a Cow, and ring-leader of the herd, (for which cause *Homr* compareth *Agamemnon* the great Emperor of the *Græcian* Army to a Bull) reserved only for procreation, and is sometimes indifferently called an Oxe, as Oxen are likewise of Authors taken for Bulls, *Virg.*

*Pingue solum primis ex tempore mensibus anni,
Fartes invertant boves.*

The true etymology of the name *Taurus*.

The Hebrews call him *Tor*, or *Taur*; which the Chaldæes call *Abir*, for a strong Ox: so the Arabians, *Taur*: the Grecians, *Taurus*; the Latines, *Taurus*; the Italians, *Tauro*; the French, *Taureau*; the Germans, *ein Stier*, *ein Vuchersstier*, *das Vucher*, *ein Mummelsstier*, *ein Hagen*, and *ein Bollen*; the Illyrians, *Vul*, and *Iunecz*: by all which several appellations, it is evident, that the name *Taurus* in Latine is not derived from *Tanouras*, the stretching out the tayl; nor from *Gauros*, signifying proud; but from the Hebrew, *Tor*; which signifieth great: upon which occasion, the Grecians called all large, great, and violent things, by the name of *Tauroi*, and that word *Taurus* among the Latines, hath given denomination to Men, Stars, Mountains, Rivers, Trees, Ships, and many other things, which caused *Ioachim Camerarius* to make thereof this enigmatical riddle.

A Riddle upon the word *Taurus*.

*Machus eram regis: sed lignea membra sequebar.
Et Cilicum mens sum: sed mens sum nomine solo.
Et veher in cælo: sed in ipsis ambulo terris.*

That is in divers senses, *Taurus* was a Kings Pander, the root of a tree, a Mountain in Cilicia, a Bull, a Mountain in name, a Star or sign in heaven, and a River upon the earth: so also we read of *Statilius Taurus*, and *Pomponius Vitulus*, two Romans. It was the custom in those days, to give the names of beasts to their children, especially among the *Troglodyte*, and that Adulterer which ravished *Europa*, was *Taurus* the King of Crete; or as some say, a King that came in a Ship, whose Ensign and name was the Bull; and other affirm, that it was *Jupiter* in the likeness of a Bull, because he had so deflowered *Ceres* when he begat *Proserpina*, and afterward deflowered *Proserpina* his daughter, in the likeness of a Dragon. It is reported that when *Achelous* did fight with *Hercules* for *Deianira* the Daughter of *Oeneus* King of *Calydon*, finding himself to be too weak to match *Hercules*, turned himself suddenly into a Serpent, and afterward into a Bull; *Hercules* seeing him in that proportion, speedily pulled from him one of his horns, and gave it to *Copia* the companion of Fortune, whereof cometh that phrase of *Cornucopia*. Afterward, *Achelous* gave unto *Hercules* one of the Horns of *Amalthea*, and so received his own again, and being overcome by *Hercules*, hid himself in the River of *Iboas*, which after his own name bending forth into one horn or crook, was called *Achelous*. By these things the Poets had singular intentions to decipher matters of great moment under hidden and dark Narrations.

Reasons why rivers are called *Taurocrani*.

But there are four reasons given, why Rivers are called *Taurocrani*: that is, Bul-heads. First, because when they empty themselves into the Sea, they roar or bellow like Bulls, with the noise of their falling water. Secondly, because they furrow the earth like a draught of Oxen with a plow, and much deeper. Thirdly, because the sweetest and deepest pastures unto which these cattel resort, are near the rivers. Fourthly, because by their crooking and winding, they imitate the fashion of a horn, and also are impetuous, violent, and irresistible.

The strength and several parts of Bulls.

The strength of the head and neck of a Bull is very great, and his fore-head seemeth to be made for fight: having horns short, but strong and piked, upon which he can toss into the air very great and weighty beasts, which he receiveth again as they fall down, doubling their elevation with renewed strength and rage, untill they be utterly confounded. Their strength in all the parts of their body is great, and they use to strike backward with their heels: yet is it reported by *Cælius Titornus* a Neat-herd of *Ætolia*, that being in the field among the cattel, took one of the most fierce and strongest Bulls in the herd by the hinder-leg, and there in despite of the Bull striving to the contrary, held him with one hand, untill another Bull came by him, whom he likewise took in his other hand, and so perforce held them both: which thing being seen by *Milo Crotoniates*, he lifted up his hands to heaven, crying out by way of Interrogation to *Jupiter*, and saying: O *Jupiter*, hast thou sent another *Hercules* amongst us? Whereupon came the common proverb of a strong armed man: *This is another Hercules*. The like story is reported by *Suidas* of *Polydamas*, who first of all slew a Lyon, and after held a Bull by the leg so fast, that the beast striving to get out of his hands, left the hoof of his foot behinde him.

The prodigious strength of *Titornus*.

Their several parts.

The *Epithites* of this beast are many among Writers, as when they call him Brazen-footed, wilde, chearful, sharp, plower, warrier, horn-bearer, blockish, great, glittering, fierce, valiant, and louring, which seemeth to be natural to this beast; insomuch as the *Grammarians* derive *Torvitas*, grimness or louring, from *Taurus*, a Bull, whose aspect carryeth wrath and hatred in it: wherefore it is Proverbially said in *Westphalia*, of a louring and scouling countenance, *Eir sic als ein ocks der dem fleischwuer Entlofferist*: That is, he looketh like a Bull escaped from one stroke of the Butcher. Their horns are lesser but stronger then Oxen or Kie, for all beasts that are not gelded, have smaller horns and thicker skuls then other, but the Bulls of *Scythia* as is said elsewhere, have no horns. Their heart is full of nerves or sinews, their blood is full of small veins, for which cause he ingendereth with most speed, and it hardneth quickly. In the gall of a Bull there is a stone called *Guers*, and in some places the gall is called *Mammatur*. They are plentiful in most Countries, as is said in the discourse of Oxen, but the best sort are in *Epirus*, next in *Thracia*, and then in *Italy*, *Syria*, *England*, *Macedonia*, *Phrygia*, and *Belgia*: for the Bulls of *Gallia* are impaired by labour, and the Bulls of *Æthiopia* are the *Rhinoceros*, as the Bulls of the woods are Elephants.

Countries of their best breed.

Their time of copulation.

They desire the Cow at eight months old, but they are not able to fill her till they be two years old, and they may remain tolerable for breeders untill they be 12. and not past. Every Bull is sufficient for ten Kie, and the Bulls must not feed with the Kie, for two months before their leaping time,

time, and then let them come together without restraint, and give them Pease, or Barley, if their pasture be not good. The best time to suffer them with their females, is the midst of the Spring, and if the Bull be heavy, take the tayl of an Hart and burn it to powder, then moisten it in Wine, and rub therewith the genitals of a Bull, and he will rise above measure into lust: wherefore, if it be more then tolerable, it must be allayed with Oyl. The violence of a Bull in the act of copulation is so great, that if he miss the females genital entrance, he woundeth or much harmeth her in any other place; sending forth his seed without any motion except touching, and a Cow being filled by him, he will never after leap her, during the time she is with Calf: wherefore the Egyptians decipher by a Bull in health, without the itch of lust, a temperate continent man, and *Epictetus* saying of *Sustine* and *Abstine*; that is *Bear* and *Forbear*, was emblematically described by a Bull, having his knee bound and tied to a Cow in the hand of the Neat-herd, with this subscription. *Hard fortune is to be indued with patience, and happiness is often to be feared, for Epictetus said, Bear and forbear; we must suffer many things, and withhold our fingers from forbidden fruits; for so the Bull which swayeth rule among beasts, being bound in his right knee, abstaineth from his female great with young.*

When they burn in lust, their wrath is most outrageous against their companions in the same pasture, with whom they agreed in former times, and then the conqueror coupleth with the Cow: but when he is weakened with generation, the beast that was overcome, setteth upon him afresh, and oftentimes overcometh: which kinde of love-fight is elegantly described by *Oppianus*, as followeth. One that is the chiefeft ruleth over all the other herd, who tremble at the sight and presence of this their eager King, and especially the Kye, knowing the insulting jealousie of their raging husband. When the herds of other places meet together, beholding one another with disdainful countenances, and with their loughing terrible voices provoke each other, puffing out their flaming rage of defiance, and dimming the glittering light with their often dust-beating-feet into the air, who presently take up the challenge, and separate themselves from the company, joyning together at the sound of their own trumpets-loughing voyce, in fearful and sharp conflicts, not sparing, not yeelding, not retiring, till one or both of them fall wounded to the earth: sometimes turning round, sometimes holding heads together, as if they were Coach-fellows: and as two mighty ships well manned, with sufficient arms and strength, by force of winds and floods violently rushing one against another, do break and split asunder, with the horrible cry of the Souldiers, and ratling of the armour: so do these Bulls, with voice, legs, horns, and strength, like cunning and valiant Martialists, make the sounds of their blows to ring betwixt heaven and earth, untill one of them be vanquished and overthrown.

The poor over-come beast, with shame retireth from the herd, and will no more appear, untill he be enabled to make his party good against his triumphant adversary: then he feedeth solitary in the Woods and Mountains, for it is proverbially said, to signifie a single and unmarried life, *abijt Taurus in silvam*: that is, the Bull is gone to the Wood to live solitarily without his female, often exercising himself like a studious Champion against the day of a new combate, and when he findeth his strength increased, and his courage armed for the day of battel, then roareth he in the Woods and Mountains, to provoke his adversary to answer; and perceiving his own voyce to be more fierce and violent then is his enemies, forth he proceedeth like some refreshed Giant, confident in his strength, descending the lists of a second combate, where he easily overcometh the Victor, weakened with copulation, and not exercised or fitted to such a triall through fulness and venery: so the first that was vanquished becometh Conqueror.

The very same is in other words described by *Virgil*: Bulls are enemies to all beasts that live upon prey, as Bears, Lyons, and Wolves: when they fight with Wolves, they winde their tails together, and so drive them away with their horns; when the Bear fighteth with an Oxe, she falleth on her back, watching opportunity to take his horns with her fore-feet; which if she catch, with the weight of her body she wearieth the beast, who is so earnest in combate with these beasts, that they will fight their tongues hanging out of their mouths. The Crow is enemy to Bulls and Asses, for in her flight she will strike at their eyes; and it is easier for the Bull to be revenged of a Lyon, then on such a bird: Red colour stirreth up a Bull to fight, neither can the Neat-herds govern these with such facility as they do the females, for when they wander and go astray, nothing can recall them but the voice of their females for copulation, which they understand and hear, being a mile or two distant.

The voyce of a Bull is sharper and shriller then is the loughing of a Cow; they are most courageous that have short and thick necks, and in their greatest wildeness, if their right knee can be bound, they will not stir; or if they be tyed to a wilde fig-tree, which is so fearful to the nature of an Oxe or Bull, that it hath been seen, how a very few sticks of that wood have sod a great quantity of Bulls flesh in shorter time, then a far greater number of other wood set on fire could perform: which caused the Egyptians in ancient time, to picture a Bull tyed to a wilde fig-tree, to signifie a man that changed his manners through calamity.

Out of the hides of Bulls, especially their ears, necks, and genitals, is most excellent glew confected, but for the most part it is corrupted, by seething with it old leather of shooes or boots: but that of *Rhodes* is without all fraud, fit for Physitians and Painters, and evermore the whiter the better, for that which is black is good for nothing; wherefore that which is made out of Bulls hides, is so white, that it sendeth forth a brightness, whose vertuous conjunction in conglutination is so powerful, that it is easier to break a whole piece of wood then any part so glewed together therewith: and for this invention, we are (saith *Pliny*) indebted to *Dedalus* the first author thereof. They used it in instruments of musick, and such other tender and pretious actions.

Their food for procreation.

Quintilius.

The fight or combate of Bulls.

Georg. 3.
Their enmity to other beasts.

Hor. Apollo. 2.
A secret in the taming of a Bull.

Their hides.

Of the gall.

Of the flesh.

Leo Afric.

The sacrificing
of Bulls.

Celsus.

Cyprianus.

Pliny.

Pausanias.

Proverbs of a
Bull.Like the Eng-
lish proverb, If
the sky fall, we
shall have
Larks.The medicines
of Bulls.

The gall of an Oxe put upon Copper or Brasse, maketh it glitter like Gold; for which cause it is used by Players, to colour their counterfeit Crowns. The flesh of a Bull is good for meat; but yet not so good as an Oxe or Cow; yet did the Egyptians abstain from eating Cows flesh, and not from the flesh of Bulls.

These beasts are used in some places to plow, in some to fight; and it is reported by *Helianus*, that *Myrridates* King of *Pontus*, beside his guard of men, had also a guard of a Bull, a Horse, and a Hart, which he tamed with his own hands; so that when his followers were asleep, if any stranger came neerer, they failed not to awake him, by one of their several voices. It is reported also, that if the nostrils of a Bull be anointed with Oyl of Roses, he will presently lose his eye-sight: and that in the Lake *Asphaltites* there can no living creature abide, and yet many Bulls and Camels swim therein safely. It is but fabulous that there were Bulls in *Colchis*, which did breathe out fire, except by that fiction the Poets understood the beastly rage of the rich Inhabitants. Touching the sacrificing of Bulls; it was also the custom of the old Egyptians to sacrifice a Bull unto *Epaphus*: and their manner was, first of all to try him whether it were fit for sacrifice, by laying meal before them, whereof if they refused to taste, they were adjudged not apt for the Temple.

The *Druides* call a general sacrifice *Viscum*, whereby they affirm all grievances may be cured. First they prepared a banquet with sacrifice under some tree, then brought they two white Bulls fastened together by the horns, and then they gave a drink to any barren creature, woman, or brute beast, holding religiously, that by that drink they should be made fruitful, and free from all poison: Unto so great a height did the folly of blinde people arise, to put religion in every unreasonable invention, under pretence of any good intention devised by idolatrous Priests. As often as they slew and offered a Bull, and poured Frankincense and Wine upon the hoast, they said; The Bull is increased with Frankincense and Wine: but the *Ionians* did best comfort themselves in their sacrifices, where the Bull before his death did lough at the Altar: and the *Messenians* did binde their Bull which was to be sacrificed to the ghost of *Aristomene*, unto certain Pillars in his Sepulchre: if therefore the Bull did shake the pillar while he leaped to and fro to get liberty, they took it for a good sign or Omen, but if it stood immoveable, they held it a mournful and lamentable thing.

It is likewise reported by *Varinus*, that when *Agamemnon* ignorantly killed one of the Harts of *Diana* in *Aulis*, she was so wroth, that she stayed the winds from blowing upon his Navy, so as they could not stir out of harbour: hereupon they went to the Oracle, where answer was given, that the goddess was to be pacified with some one of *Agamemnons* blood, therefore *Ulysses* was sent away to fetch *Iphigenia*, the daughter of *Agamemnon* from her mother *Clitemnestra*, under pretence to be married to *Achilles*; but when she was ready to be sacrificed, the goddess took pity on her, and accepted a Bull in her stead, which ought not to be thought incredible, seeing that in holy Scripture a Ram was substituted in the place of *Isaac*.

They were wont also to sacrifice a Bull to *Neptune*, and to all the Rivers, because of that affinity which they held a Bull hath with all waters: and to *Apollo*, according to this *Virgilian* verse, *Taurum Neptuno, Taurum tibi pulcher Apollo*. But unto *Jupiter* it was unaccustomed to be offered, perhaps because he had often shewed himself in that likeness, to ravish and devour women. There be certain Proverbs of a Bull, which are not altogether impertinent in this place. First, it is commonly said, that he may bear a Bull that hath born a Calf; whereby is meant, that he may be more subject to filthiness in age, which was so in youth. *Quartilla* was a woman of most vile reputation for uncleanness, because she said, that when she was little, she lay with little ones like her self, and when she grew bigger, she applyed her self to the pleasure of elder men, growing in filthiness as she had increased in years. Likewise they were wont to say of an absurd or impossible thing; that if a Bull could reach his head over *Taygetus*, he might drink of the river *Eurota*: and the beginning of this proverb, was taken of an *Apothegme* of *Geradus*, when his Hoast upon a time did ask him what punishment the *Lacedemonians* had appointed for adulterers, he answered: there was no adulterers in *Lacedemon*, and therefore the punishment and question were frivolous. His Hoast replied; But if there should be an adulterer there, what punishment would they appoint for him? Marry (said *Geradus*) he should pay such a Bull as would reach over *Taygetus* to drink of the water *Eurota*; whereat the host laughed, demanding where such a Bull could be found? then said *Geradus*, and where can you finde an adulterer in *Lacedemon*? so putting off one absurdity with another. And thus much of the natures and properties of a Bull in general. In the next place before this beast be turned into the Woods, we will describe his medicinal virtues; and so let him loose.

The powder of a Bulls horn drunk in water stayeth a flux of blood, and the looseness of the belly. *Sextus* and *Esculapius* say, that if a Bulls horn be burned in a place where Serpents abide, it driveth them away. The blood of Bulls mingled with Barley flower, driveth away hardness in the flesh, and being dried cureth Apothumes in every part of the body. It taketh away spots in the face, and killeth Serpents: It is commended warm against the Gout, especially in Horses. It is not good for to drink, because it is easily congealed, except the little veins be taken out. It is accounted among the chiefest poisons; and therefore it is thought by *Plutarch*, that *Hannibal* poisoned himself by drinking Bulls blood, being thereunto perswaded by his servant: for so dyed *Themistocles*, and *Psammennus* King of Egypt, taken by *Cambyses*, was constrained to drink the blood of a Bull; whereupon immediately he gave up the ghost. For remedy hereof, it is good to beware of vomiting, because the blood congealed in the stomach into lumps, stoppeth the throat; wherefore all those things which dissolve milk in the stomach, are also medicinable against the blood of Bulls. In these cases let the party

party be first of all purged by Gl, ster or otherwise, and then anoynt the stomach and belly with Barly meal and sweet Water, laying it unto them like a plaister: likewise Lupines, Oxymel, and Nitre, are soveraign in this, as all Physitians know. The dry leaves of Neppe and Calamach is profitable against this Malady; so also are ashes made of the lees of Wine burned.

The fat of a Bull is profitable to many things. First therefore, it must be plucked out warm from the reins of a Bull and washed in a River or Brook of running Water, pulling out the skins and tunicles, then melt it in a new earthen pot, having cast among it a little salt, then set it in fair cold Water, and when it beginneth to congeal, rub it up and down in the hands, wringing out the water, and letting it soke in again, untill it appear well washed; then boyl it in a pot with a little sweet Wine, and being sodden, let it stand all night: if in the morning it savour strong, then pour in more Wine, seeke it again, untill that savour cease, and so all the poyson be removed: and beware of Salt in it, especially if it be to be used in diseases, whereunto Salt is an enemy, but being thus used, it looketh very white: after the same manner may be used the fat of Lions, Leopards, Panthers, Camels, Boars, and Horses.

Dioscorides

The fat kall about the guts melted in a frying pan, and anoynted upon the genitals and breast, helpeth the *Dysenterie*. The marrow of a Bull beaten and drunk, cureth the pain in the smal of the belly: and *Aesculap* saith, that if it be melted at a fire, and mingled with one fourth part of Myrrhe and Oyl of Bays, and the hands and feet be therewith anointed and rubbed, morning and evening; it helpeth the contractions of the Nerves and Sinews.

The fat of a Dormouse, of a Hen, and the marrow of a Bull, melted together, and poured warm into the ears, easeth their pain very much: and if the liver of a Bull be broyled on a soft fire, and put into ones mouth that hath the Tooth-ach, the pain will go away so soon as ever the teeth touch it. The gall of a Bull is sharper then an Oxes, and it is mingled with Hony for a Wound-plaister, and in all outward remedies against poyson. It hath also a quality to gnaw the deadness or corruption out of Wounds, and with the juyce of Leeks and the Milk of women, it is applyed against the Swine-pox, and Fistulaes; but the gall alone rubbed upon the biting of an Ape, cureth that Malady. Likewise the Ulcers in the head, both of men, women, and children. And if the wool of an Hare be burned to ashes, and mingled with oyl of Myrtles, Bulls gall, and beaten Aloes, and so warmed and anoynted upon the head, it stayeth the falling away of the hair of head.

With the gall of a Bull, and the white of an Egge, they make an Eye-salve, and so anoynt therewith dissolved in water four days together; but it is thought to be better with Hony and Balsam: and instilled with sweet new Wine into the Ears, it helpeth away the pains of them, especially running-mattry Ears, with Womans or Goats milk. It being taken with Hony into the mouth, helpeth the clifts and sores therein; and taken with the Water of new *Coloquintida* and given to a woman in travel, causeth an easie childe-birth. *Galen* was wont to give of a Bulls gall the quantity of an Almond, with two spoonfuls of Wine, called (*Vinum Lymphatum*) to a woman that hath her childe dead within her body, which would presently cause the dead Embryon to come forth. The genital of a red Bull, dried to powder, and drunk of a woman, to the quantity of a golden Noble, it maketh her to loath all manner of copulation: but in men (as the later Physitians affirm) it causeth that desire of lust to increase. The dung of a Bull laid to warm, helpeth all hardness; and burnt to powder, helpeth the member that is burnt. The urine or stale of Bulls with a little Nitre taketh away Scabs and Leprosie.

Of another Beast called *BUSELAPHUS*.

There was (saith *D. Cay*) a cloven-footed beast brought out of the Deserts of *Mauritania* into England, of the bigness of a Hinde, in form and countenance betwixt a Hinde and a Cow, and therefore for the resemblance it beareth of both, I will call it *Buselaphus*, or *Bovicerus*, or *Moschellaphus*, or a Cow-Hart: having a long and thin head and ear, a lean and slender leg and thin, so that it may seem to be made for chase and celerity. His tail not much longer then a foot, but the form thereof very like a Cows, and the length like a Harts; as if nature seemed to doubt whether it should encline to a Cow or a Hart: his upper parts were yellowish and smooth, his neither parts black and rough; the hair of his body betwixt yellow and red, falling close to the skin, but in his fore-head standing up like a Star; and so also about the horns which were black, and at the top smooth, but downward rough with wrinkles meeting on the contrary part, and on the neerer side spreading from one another, twice or thrice their quantity. These horns are in length one foot and a hand-breadth, but three hands-breadth thick at the root, and their distance at the root was not above one fingers breadth, so arising to their middle, and a little beyond where they differ or grow asunder three hands breadth and a halt; then yeeld they together again a little, and so with another crook depart asunder the second time, yet so, as the tops of the horns do not stand asunder above two hands-breadth, three fingers and a half. From the crown of the head to the nostrils, there goeth a black strake which is one foot, two palms and one finger long, in breadth above the eyes where it is broadest, it is seven fingers, in thickness one foot and three palms, it hath eight teeth, and wanteth the uppermost like a Cow, and yet cheweth the Cud, it hath two udders under the belly like a Heifer that never had a Calf, it is a gentle and pleasant beast, apt to play and sport, being not only swift to run, but light and active to leap: It will eat any thing, either bread, broth, salted or powdred beef, grass or herbs, and the use hereof being alive is for hunting, and being dead the flesh is sweet and pleasant for meat.

The description
of this
strange beast.
The name.
The several
parts.

Pausanias.

Of the OXE and COW.



WE are now to describe those beasts which are less foreign and strange, and more commonly known to all Nations, then any other four-footed beast: for howsoever Bugles, Buffes, Lyons, Bears, Tigers, Beavers, Porcupines and such other, are not alway found in every Nation, yet for the most

most part are Oxen, Kine, Bulls and Horses, by the Providence of Almighty God, disseminated in all the habitable places of the world: and to speak the truth, Oxen and Horses were the first riches, and such things wherein our Elders gat the first property, long before houses and lands: with them they rewarded men of highest desert, as *Melampus*, who opened an Oracle to *Neleus* that sought out the lost Oxen of *Iphiclus*. And *Erix* King of *Sicily*, so much loved Oxen, that *Hercules* recovered from *Geryon*, that when he was to contend with *Hercules* about these, he rather yeelded to depart from his Kingdom then from his Cattel: and *Julius Pollux* affirmeth, that there was an ancient coin of mony, which was stamped with the figure of an Oxe, and therefore the Cryer in every publick spectacle made proclamation, that he which deserved well, should be rewarded with an Oxe, (meaning a piece of mony having that impress upon it: which was a piece of Gold compared in value to an *English* Rose-noble) and in my opinion the first name of mony among the *Latines* is derived from Cattel, for I cannot invent any more probable etymologie of *Pecunia*, then from *Pecus*, signifying all manner of Cattel: howsoever it is related by some Writers, that on the one side of their coin was the Kings face, and on the other an Oxes picture; and that *Servius* was the first that ever figured money with Sheep or Oxen. *Miron* the great painter of *Eleutheris*, and disciple of *Agelas*, made an Heifer or Cow of Brasse, which all Poets of *Greece* have celebrated in sundry Epigrams, because a Calf came unto it to suck it, being deceived with the proportion, and *Ausonius* also added this following unto the said Calf and Cow, saying:

*Upera quid pulsas frigentia matris abena,
Ovula? & succum lacis ab ere petis?*

Whereunto the brazen Cow is caused to make this answer following:

*Hunc quoque prestarem, si me pro parte parasset,
Exteriore Miron, interiore Deus.*

Whereby he derideth their vain labours, which endeavour to satisfie themselves upon mens devices, which are cold and comfortless without the blessing of Almighty God. To begin therefore with these beasts, it must be first of all remembered, that the name *Bos*, or an Oxe as we say in *English*, is the most vulgar and ordinary name for Bugils, Bulls, Cows, Buffes, and all great cloven-footed horned beasts; although in proper speech, it signifieth a beast gelded or libbed of his stones: and *Boas* signifieth a huge great Serpent whereof there were one found in *Italy*, that had swallowed a childe whole without breaking one of his bones, observing also in Oxen the distinction of years or age: which giveth them several names, for in their young age they are called Calves, in their second age Steeres, in their third Oxen, and the *Latines* adde also a fourth, which they call *Vetuli*, old Oxen. These are also distinguished in sex, the Male Calf is *Vitulus*, the Female *Vitula*; likewise *Juvenus*, a Steer, and *Juvenca*, an Heifer, *Bos*, an Oxe, and *Vacca*, a Cow; *Taurus*, a Bull; *Tauras*, a barren Cow; and *Herda*, a bearing and fruitful Cow: of whom the *Romans* observed certain festival days called *Hordicalia*, wherein they sacrificed those Cattel. The *Latines* have also *Vaccula* and *Bucula* for a little Cow:

Vaccula non nunquam secreta cubilia captans, Virg.

And again,

Aut Bucula Caelum.

And *Bucalus* or *Bos novellus* for a little Oxe. *Schor* in the *Hebrew* signifieth a Bull or Oxe, *Bakar*, Herds, or a Cow. *Thor* in the *Chaldee* hath the same signification with *Schor*, and among the later Writers you may finde *Tora* a masculine, and *Torata* a feminine, for a Bull and a Cow, accustomed to be handled for labour. The *Grecians* call them *Bous* and *Boes*, the *Arabians*, *Bakar*: and it is to be noted, that the holy Scriptures distinguish betwixt *Tzon*, signifying flocks of Sheep and Goats, and *Bakar* for Herds of Cattel and Neat: and *Meria* is taken for Bugils, or the greatest Oxen, or rather for fatted Oxen, for the verb *Marah* signifieth to feed fat. *Egela* is interpreted Jer. 46. for a young Cow; and the *Persians*, *Gosalai*: It is very probable that the *Latine*, *Vacca*, is derived from the *Hebrew*, *Bakar*, as the *Saracen* word, *Baccara*; so in *Hebrew*, *Para* is a Cow, and *Par*, a Steer, and *Ben Bakar*, the son of an Oxe, or Calf: and whereas the *Hebrews* take *Parim*, for Oxen in general, the *Chaldees* translate it *Tore*; the *Arabs*, *Bakera*; the *Persians*, *Nadgatah*, or *Madagaucha*; the *Italians*, call it *Bue*; the *French*, *Beuf*; the *Spaniards*, *Buey*; the *Germans*, *Ochs*, and *Rind*; the *Illyrians*, *Wull*. The *Italians* call a Cow *Vacca* at this day; the *Grecians*, *Bubalis*, and *Damialis*, or *Damalai*; (for a Cow which never was covered with a Bull, or tamed with a yoke) and *Agelada*. The *French*, *Vache*; the *Spaniard*, *Vaca*; the *Germans*, *Ku*, or *Kube*; and the Citizens of *Alina*, *Ceva*: from which the *English* word Cow seemeth to be derived; the *Latine* word is, a young Heifer, which hath ceased to be a Calf.

There are Oxen in most part of the world, which differ in quantity, nature, and manner, one from another, and therefore do require a several Tractate. And first, their Oxen of *Italy* are most famous, for as much as some learned men have affirmed, that the name *Italia*, was first of all derived of the *Greek* word *Italos*, signifying Oxen; because of the abundance bred and nourished in those parts, and the great account the ancient *Romans* made hereof, appeareth by notable example of punishment, who banished a certain Countrey man for killing an Oxe in his rage, and denying that he eat thereof, as if he had killed a man: likewise in *Italy* their Oxen are not all

Pliny,

Valla.
Of the name
Bos.Of the name
of a Cow.The diversity
of Oxen in all
Countreys.
Varro.

Oxen of Italy

alike, for they of *Campania* are for the most part white and slender, yet able to manure the Countrey wherein they are bred; they of *Umbria*, are of great bodies, yet white and red coloured. In *Hetruria* and *Latium*, they are very compact and well set or made, strong for labour, but the most strong are those of *Apennine*, although they appear not to the eye very beautiful.

Aristotle.
Oppianus.
Aonia.
Ælianus.
Leo Afric.
African oxen.

The Egyptians which dwell about *Nilus* have Oxen as white as snow, and of exceeding high and great stature, (greater then the Oxen of *Grecia*) yet so meek and gentle, that they are easily ruled and governed by men. The *Aonian* Oxen are of divers colours, intermingled one within another, having a whole round hoof like a horse, and but one horn growing out of the middle of their forehead.

The domestical or tame Oxen of *Africk* are so small, that one would take them for Calves of two years old; the *Africans* (saith *Strabo*) which dwell betwixt *Getulia* and our Coast or Countrey, have Oxen and Horses which have longer lips and hoofs then other, and by the *Grecians* are termed *Macrocheileroi*.

Armenian
oxen.
Ælianus.
Varinus.
Bæotian Oxen.
Carician oxen.

The *Armenian* Oxen have two horns, but winding and crooking to and fro like Ivie which cleaveth to Oaks, which are of such exceeding hardness that they will blunt any sword that is stroked upon them, without receiving any impression or cut thereby. Some are of opinion, that the only excellent breed of Cattel is in *Bæotia*, neer the City *Tanagra* (called once *Pamandra*) by reason of their famous Cattel, the which Oxen are called *Coprophaga*, by reason that they will eat the dung of man; so also do the Oxen of *Cyprus*, to ease the pains of their small guts. The *Caricians* in a part of *Asia* are not pleasant to behold, having shaggy hair, and bunches on either shoulders, reaching or swelling to their necks; but those which are either white, or black, are refused for labour.

Epirus,

Epirus yeeldeth also very great and large Oxen, which the inhabitants call *Pyrrici*, because that their first stock or seminary were kept by King *Pyrrhus*: howsoever other say, that they have their name of their fiery flaming colour: they are also called *Larani* of a Village *Larinum*, or of *Larinus*, a chief Neat-herd: of whom *Athenens* maketh mention, who received this great breed of Cattel of *Hercules* when he returned from the slaughter of *Gerion*: who reigned about *Ambracia* and *Ampholochi*, where through the fatness of the earth and goodness of the Pasture they grow to so great a stature. Other call them *Cestrini*, I know not for what cause, yet it may be probable that they are called *Larini*, by reason of their broad Nostrils, for *Rines* in *Greek* signifieth Nostrils: but the true cause of their great bone and stature is, because that neither sex were suffered to couple one with another, untill they were four years old at the least, and therefore they were called *Atauri*, and *Setauri*, and they were the proper goods of the King: neither could they live in any other place but in *Epirus*, by reason that the whole Countrey is full of sweet and deep pastures.

Pliny.
Aristotle.
Theodoret.

All the Oxen in *Eubæa* are white at the time of their Calving, and for this cause the Poets call that Countrey *Argobœon*. If that Oxen or Swine be transported or brought into *Hispaniola*, they grow so great, that the Oxen have been taken for Elephants, and their Swine for Mules, but I take this relation to be hyperbolicall.

Eubæa.
Ælianus.
Hispaniola
Oxen.
Peter Martyr.

There are Oxen in *India* which will eat flesh like Wolves, and have but one horn, and whole hoofs; some also have three horns; there be other as high as Camels, and their horns four foot broad. There was a horn brought out of *India* to *Ptolemy* the second, which received three *Amphoræ* of water, amounting the least to thirty *English* gallons of wine measure; whereby it may be conjectured of how great quantity is the beast that bare it. The *Indians*, both Kings and people, make no small reckoning of these beasts, (I mean their vulgar Oxen) for they are most swift in course, and will run a race as fast as any horse, so that in their course you cannot know an Ox from a Horse, waging both gold and silver upon their heads; and the Kings themselves are so much delighted with this pastime, that they follow in their Wagons, and will with their own mouths and hands provoke the beasts to run more speedily: and herein the Ox exceedeth a Horse, because he will not accomplish his race with sufficient celerity, except his rider draw blood from his sides with the spur, but the Oxes rider need not to lay any hands or pricks at all upon him, his only ambitious nature of overcoming (carrying him more swiftly then all the rods or spurs of the world could prevail on him). And of this game, the lowest of the people also are very greedy, laying many wagers, making many matches, and adventuring much time and price to see their event.

Rafis.
Indian Oxen.
Ctesias.
Solinus.
Pliny.
Ælianus.

Among the *Indians* there are also other Oxen which are not much greater then great Goats, who likewise in their yokes are accustomed to run many races, which they performe with as great speed as a *Geican* Horse; and all these Oxen must be understood to be wilde Oxen.

Ælianus.

There be Oxen in *Leucæria* (which *Aristotle* affirmeth) have their ears and horns growing both together forth of one stem. The Oxen of the *Garamanis*, and all other Neat among them, feed with their necks doubled backward, for by reason of their long and hanging horns, they cannot eat their meat, holding their heads directly straight. The self same is reported of the beasts of *Troglodyte*; in other things they differ not from other Oxen, save only in the hardness of their skin, and these Oxen are called *Opisthonomi*.

Leucærian
Oxen.
Garamantæ.
Solinus.
Herodotus.

In the Province of *Bangala*, are Oxen (saith *Paulus Venetus*) which equall the Elephant in height. The Oxen in *Mysia* have no horns, which other affirm also of the *Scythians*, whereof they assign this reason,

Bangala.
Aristotle.

reason, because the universal bone of the skull hath no *Commissure* or joint opened, and cannot receive any humour flowing unto it, by reason of the hardness resisting, and the veins belonging to this bone are weaker and smaller then in other; for which also they are more unfit to convey nourishment to the place: and so the neck of these beasts must needs be more dry and lesse strong, because the veins are very little. The Oxen have bunches growing on their backs like Camels, and upon them do they bear their burdens, being taught by the discipline of men, to bend on their knee to receive their load.

Among the *Nomades* (which winter their Cattel about the Marishes of *Mæotis*) there are also certain Cattel without horns; whereof some are so naturally, the other have their horns sawed off, as soon as they grow forth, because of all the parts of their body, they only can endure no cold. *Ælianus. Nomadian Oxen.*

There be Oxen in *Phrygia* and *Erythrea* which are of a flaming red colour, of a very high and winding neck, their horns are not like any other in the world, for they are moved with their ears turning in a flexible manner sometime one way and sometime another. *Ælianus. Oppianus. Phrygian and Erythrean Oxen.*

The Syrian Oxen called *Pellet* are of great strength, having a broad forehead, strong horns, and fearful or courageous aspect, being neither too fat or too lean of their bodies; and they are used both for war and also for running. *Ælianus. Oxen of Syria.*

The Oxen of the *Belgian* Provinces, especially *Friseland* and *Holland*, are also of very great stature, for it hath been found by good experience, that one of them hath weighed sixteen hundred pounds *Troy* weight: and when the Earl of *Hoochstate* was at *Mieblin* in *Friseland*, there was presented unto him a great Ox, which being killed, weighed above two thousand five hundred twenty and eight pound. The which thing being so strange as the like had not been beforetime observed; to the intent that succeeding ages might not mistrust such a memorable report, the said Earl caused the full picture of the said Ox, to be set up in his Palace, with an inscription of the day and year when this Ox was delivered and killed. *Belgian Oxen. Guicciardine.*

OF COWES.

HAVING thus noted briefly the Countries wherein Oxen are bred and nourished, with their several forms: it must be also observed, that Kine or Cowes which are the female of this kind, are likewise found in all the places aforesaid with correspondent and semblable quantities, qualities, members, parts, and other accidents to such creatures appertaining; excepted always those things which belong to their sex, which principally concern their milk. And first of all the Kine of most plentiful Milk in all *Italy*, are about *Altinas* a City of the *Venetians*, neer *Aquileia*, which Kine are of the smallest body, and yet the greatest labourers, who are not yoked or coupled together by their necks as in other Countries, but only by their heads. *Milk of Kine in Italy.*

The Cowes of *Arabia* have the most beautiful horns, by reason of abundance of humours which flow to them, feeding them continually with such generous liquor as naturally doth encrease them. *Arabian Cowes.*

The *Pyrrhean* Kie are not admitted to the Bull till they be four year old at the least, which thing caused them to grow to a very high and tall stature: whereof there were ever four hundred kept for the Kings store. *Pyrrhean Cowes.*

These Kie do give at one time seven or eight gallons of Milk, of Wine measure, and they are so tall, that the person which milke them must stand upright, or else stoop very little: neither ought this seem incredible, for it is evident that the Cowes of the *Phœnicians* were so high, that a very tall man could not milke them except he stood upon a footstool. *Phœnician Cowes. Ælianus.*

The manner is in *Germany* and *Helvetia*, that about *April* some take Kie to hire, which have none of their own, and other buy Kie to farme them out to other; and the common price of a Cow for six moneths is payed in Butter, and is rated at seventy five pounds, twelve ounces to the pound; which payment is due to the owner, or money to that value. Other again, buy Kie and let them forth to farm, reserving the Calf to themselves; and if by the negligence of the Cowherd or farmer of them, the Cow cast the Calf, then is the hirer bound to answer the value, but if it miscarry without his negligence (as oftentimes they may) then is the losse equall to the Locattour or Farmer. Yet it is noted, that the Kie of greatest bodies, are not alway best or most plentiful in Milk; for the Cowes or *Cave* of *Altinas* in *Italy*, are of little bodies, but yet very full of Milk. *Hiring of Cowes in Germany and Helvetia.*

The principal benefit of Cowes Milk is for making of Butter, for the Milk it self, the Cheese and Whay, are not so fit for nourishment of man, as are those of Sheep; and the reason is, because the Milk of Kie is fattest of all other, and therefore the name of Butter, which is in *Greek*, *Boutyros* and *Boutyron*, and *Butyrum* in *Latin*, is derived properly from this kinde of Cattel. The Cowherds do also for their profit, observe the pasture and food, which doth above other multiplie Milk; and therefore they give their Kie *Trifolie*, or Three-leaved grasse; and *Medica*, (which is a kinde of Claver grasse) Verches, Pulse, and Beans, for Beans have a great virtue to multiply Milk: likewise I have seen bundles of Hemlock, or an herb much like unto it, (which we call Harts tongue) given to milch Kie. *The use of Cow milk. Pet. Crescent. Aristotle. Marc. Virg. Food for Cowes giving Milk.*

Palladius.

There is an herb much like Crow-foot, called of the *Germans*, Butterbloumen, and in *English*, Butter-flower, which is used to colour Butter, for thereby is the whiteness thereof taken away: they will not eat Wal-wort or night-shade (commonly called Deaths herb) but if they eat herbs whereupon falleth an Hony-dew, then will their Milk be wonderful sweet and plentiful: there is no food so good for Cows, as that which is green, if the Countrey will afford it; especially Kie love the wet and watery places, although the Butter coming from the milk of such beasts, is not so wholesome as that which is made of such as are feed in dryer Pastures. The like care is had of their drink, for although they love the coldest and clearest waters, yet about their time of Calving it is much for better them to have warmer waters, and therefore the Lakes which are heated and made to some by the rain, are most wholesome to them, and do greatly help to ease their burden and pains in that business.



Pausanias

Pausanias reporteth a wonder in nature, of the Rivers *Milicibus* and *Charadrus*, running through the City *Patra*, that all the Kie which drink of them in the Spring time, do for the most part bring forth males, wherefore their herdmen avoid those places at that time. Kie for the most part before their Calving, are dry and without milk (especially about *Torona*). They are also purged of their menstrua in greater measure, then either Goats or Sheep, which especially come from them a little before or after they have been with the Bull; howsoever *Aristotle* saith, that they come from them after they have been five moneths with Calf, and are discerned by their urine; for the urine of a Cow is the thinnest of all other.

These beasts are very lustful, and do most eagerly desire the company of their male, which if they have not within the space of three hours after they moun for it, their lust asswageth till another time. In a Village of *Egypt* called *Schuffa* (under the government of the *Hermopolites*) they worship *Venus* under the title *Urania* in the shape of a Cow, perswading themselves that there is great affinity betwixt the Goddesse and this beast; for by her mournful voice she giveth notice of her love, who receiveth the token many times a mile or two off, and so presently runneth to accomplish the lust of nature: and for this cause do the *Egyptians* picture *Isis* with a Cows horns, and likewise a Bull to signifie hearing. The signes of their Bulling (as it is termed) are their cries, and disorderly forsaking their fellows, and resisting the government of their keeper. Likewise, their secret hangeth forth more then at other times, and they will leap upon their fellows as if they were males: besides after the manner of Mares, they oftner make water then at other times.

The most cunning heardmen have means to provoke them to desire the Bull, if they be slack, first of all they withdraw from them some part of their meat (if they be fat) for that will make them fitter to conceive; then take they the genitals or stones of a Bull, and hold it to their nose, by smelling whereof they are provoked to desire copulation; and if that prevail not, then take they the tendrest part of Shrimps, which is their fish, and beat them in water till they be an ointment, and therewith anoint the breasts of the Cow, after they have been well washed, untill it work upon her. And some affirm, that the tail of an Eel put into her hath the same virtue; other attribute much force to the wilde willow, to procure lust and conception.

They are a great while in copulation, and some have ghesed by certain signes at the time of copulation, whether the Calf prove male or female; for say they, if the Bull leap down on the right side of the Cow, it will be a male, if on the left, it will be a female: which conjecture is no longer true, then when the Cow admitteth but one Bull, and conceiveth at the first conjunction, for which cause the *Egyptians* decipher a woman bringing forth a maiden childe, by a Bull, looking to the left hand, and likewise bearing a man childe, by a Bull, looking to the right hand.

They are not to be admitted to copulation before they be two year old at the least, or if it may be four; yet it hath been seen, that a Heifer of a year old hath conceived, and that another of four moneths old hath likewise desired the Bull; but this was taken for a monster, and the other never thrived.

One Bull is sufficient for fifteen Kie, although *Varro* saith, that he had but two Buls for threescore and ten Kie; and one of them was two year old, the other one. The best time for their copulation is about the time of the Daulphins appearance, and so continueth for two or three and fourty daies, which is about *June* and *July*; for those which conceive at that time, will bring forth their young ones in a most temperate time of the year: and it hath been observed, that an Ox immediately after his gelding, before he had forgotten his former desire and inclination, his seed not dried up, hath filled a Cow, and she proved with Calf.

They go with Calf ten moneths, except eighteen or twenty daies; but those which are Calved before that time, cannot live; and a Cow may bear every year (if the Countrey wherein she liveth be full of grasse, and the Calf taken away from her at fifteen days old).

And if a man desire that the Calf should be a male, then let him tie the right stone of the Bull at the time of copulation; and for a female bind the left. Others work this by natural observation; for when they would have a male, they let their Cattel couple when the North wind bloweth; and when a female, they put them together when the air is Southerly. They live not above fifteen years, and thereof ten times they may ingender. The best time to Calve in, is *April*, because then the Spring bringeth on grasse, both for themselves, and to increase milk for the young ones.

They bear not but in their right side, although they have twins in their belly, which happeneth very seldom, and the beast immediately after her delivery, must be nourished with some good meat, for except she be well fed, she will forsake her young to provide for her self: therefore it is requisite to give her Vetches, Millet-seed, and milk mingled with water, and scorched Corne; and unto the Calves themselves, dried Millet in milk, in the manner of a mash: and the Kie must also be kept up in stables, so as they may not touch their meat at the going forth, for they are quickly brought to forsake and loath that which is continually before them: and it is observed that when Kie in the Summer time do in greater number above custom go to the Bull then at other times, it betokeneth and foresheweth a wet and rainy winter, for it cannot be (saith *Albertus*) that a beast so dry as is a Cow, can be increased in moisture, which stirreth up the desire of procreation, except also there be a mutation in the air unto abundance of moisture. And to conclude this discourse of a Cow, in ancient time they were wont to call light women Heifers, Harlots, and Kine, by reason

Ælianus.

Signes of a Cowes desire to the Bull.

Secrets to provoke lust in Cattel.

Collumella.

Signes at the copulation to know whether the Calf will be Male or Female.

Aristotle.

Means to cause the Calf at the time of copulation to be either male or female.

The length of their age.

A secret in copulation.

of

of two famous harlots of *Albens*, *Cuma* and *Salanabha*, and from this came the fiction of *Io*, whose fable is at large prosecuted by *Ovid*, how she being the daughter of *Inachus*, was in a darkness brought upon her by *Jupiter*, by him ravished, which mist being espied by *Juno*, she descended to the earth, and *Jupiter* fearing his wives jealousy turned the said *Io* into a Heifer, from which shape she was afterwards delivered and married to *Osiris* the King of *Egypt*, and after her death was worshipped by the *Egyptians* for a god, and called *Isis*, unto whom they sacrificed Geese which were called *Sacra Isaca*.

Of the choise
of Kie.

In the choise of Kie, you must observe this direction; you must buy them in the moneth of *March*, let them be young, not past their first or second Calf, their colour black or red, seldom brown or white, bright coloured, specially red, brown legs, blackish horns smooth and beautiful, high foreheads, great eyes and black, hairy and grisly ears, flat Nostrils like an Apes, but open and wide, their back bones bending somewhat backward, black lips, long and thick necks, most broad fair crests descending from the neck, well ribbed, a great belly, the back and shoulders very broad, the buttocks broad, with a long tail hanging down to their heels, and their neather part in many places crisped and curled, well set and compacted legs rough and short, straight knees, and their bunches hanging over; their small feet, not broad but round, standing in good distance one from other, not growing crooked or splay-footed, and their hoofs smooth and like one another every way. Finally, it were a profitable thing to prosecute natures perfection in every one of their several parts, but I spare to speak any more of the Females, and returning again to the story of Oxen from which we have digressed, leaving the readers who desire to hear more of this discourse of Kie to other Authors, who purposely describe every part more particularly.

The description
of Oxen in
common.

To begin therefore with their description, because among folded beasts they are of most dignity and worth, especially in *Italy*, where the bounds of their best priviledged and flourishing Cities, were first of all declared and layed out, by the lowing together of an Ox and a Cow in one yolk. *Mago Carthaginensis* teacheth, that the time to provide or buy oxen, is best in the time of *March*, because then in their lean bodies, they which sell them cannot cover their faults so well, as if they were fatter, and also if they should be unruly and stubborn, they may be the more easily tamed before their flesh increase their strength.

Outward
marks of good
Oxen.

Their notes or markes must be these, let them be young, having square and great limbs, a sound body, thick and short, having his muscles standing up red and round, and all his body smooth, his horns black, strong and large, without crooking or winding, after the fashion of a half moon, great and rough ears, their eyes and lips black, broad Nostrils and flat upward, a long thick and soft neck, his crest descending down to the knee, a great breast, large shoulders, big belly, long straight sides, broad loins, a straight back descending a little, and a round pair of buttocks, straight, sound and finewy, short legs, good knees, great hoofs, and long tails rough and grisly. And it is to be noted, that the Oxen of a mans own Countrey breed, are better and to be preferred before strangers, because he is already naturally fitted to the air, food, water, and temper of the soil: for it is not good to bring them from the Mountains to the Vallies, because then they will grow lasie and fat, and so into diseases; neither from the Vallies to the Mountains, because they will quickly grow out of heart through want of their first deep and fat pasture; and above all, have regard to match them equally in yolk, so as one may not overbear the other. Oxen loose their teeth at two or three year old, but not all as a Horse doth, their nerves are harder, but not so hard as a Bulls; their flesh is dry and melancholick, their horns are greater and larger then are a Bulls, for the same reason that Eunuchs and gelded persons can never be bald; for copulation weakneth the brain, only a Bull hath a stronger forehead then an Ox, because the humour that should grow forth into horns, is hardned under the bone: and the horns of Kie which are also bigger then a Bulls; may through heat be made flexible with wax or water, and bend every way: and if when they are thus made soft, you do slit or cut them into four, that is, every horn in two, they will so grow afterward, as if every beast had four horns, and sometime through the thickness of their skull, closing up the part where the horn should grow, and the smalness of their veins in that place to feed the horns, there come no horns at all, but remain polled; And it is reported that they have a little stone in their head, which in the fear of death they breath out. Their teeth do all touch one another, and are changed twice, they chew the cud like sheep, wanting a row of their upper teeth, that is four of them, their eyes are black and broad, and their heart full of sinews, yet without any bony substance, although *Pliny* affirmeth that sometimes in the hearts of Oxen and Horses are found bones.

Their several
parts.

The reasons
why some oxen
are polled.
Ælianus.

Aristotle.

Pliny.

The parts of a
Cow different
from Oxen.

Their crest called *Palea* cometh of *Pilus* their hair, and it is nothing else but long strakes in their hair, whereby the generosity and stomach of the beast is apparent. A Cow hath two udders under her loins, with four speans, like a Goat and a Sheep, because the concoction and juice of their meat may better descend to the lower parts then to the upper; their navell is filled with many veins, their hair short and soft, their tail long, with harder hair then in the other parts of the body; their milt is long and not round, their reins are like the reins of a Sea-calf, and by reason of their dry bodies they grow very fat, and this fat will not easily be dissolved, but their manner of feeding maintaineth their strength, for they which eat much are slow in the chewing, and speedy in the concoction, for they do better preserve their fat which eat slowly, then those that eat hastily and with more greediness.

Galen.

It hath been already shewed, that some Oxen will eat flesh, and tear wilde beasts in pieces; the people of *Prasias* give to their yoked or working Oxen fish, and also in the Province of *Aden*, and where their Horses, Sheep, and Oxen, eat dried fish, by reason that the abundance of heat doth dry up their pasture: neither is any thing so plentiful among them as fish: the like is reported of the people *Horotæ*, and *Gedrusii*, and of *Molyneum* a City of *Thracia*, and in *Friseland*: in the Province of *Narbon*, there is an herb growing in waters, which is so much desired of their Cattel, that they will thrust their heads into the water above their ears, to bite that to the roots: and the Oxen of the Northern ocean Islands of *Germany* do grow so fat, that they are indangered to die thereby.

The most common food for Oxen, is the same that is already specified in the former discourse of *Kie*; namely, Three-leaved grasse, Claver grasse, all green herbs, Hay, Beans, Vetches, Chaffe, and in some places Barley and Straw. There is also a monethly diet or food given to Oxen, for in *January* and *February*, they give them Vetches, and Lupines, bruised in water among Chaffe or Pease, so bruised and mingled, and where is want of such pulse, they may give them pressings of Grapes dried and cleansed, which is not turned into wine, and mingle them with chaffe for the Cattel to eat, but the Grapes themselves are much better before the pressing, with their small twigs or leaves, because they are both meat and drink, and will fat an Ox very speedily.

The like may be added of boughs, of Laurel, Elme, and other leaves, and also Nuts and Acornes, but if they be not wearyed and fed with Acornes till they loath them, they will fall into scabs. In *March* and *April*, give them Hay, and from *April* unto *June* give them Grasse, and such green meat as may be found abroad; Afterward all the Summer and Autumn, they may be satisfied with the leaves of Elme, Bay, Holm, and especially that kind of Oake which is without prickles, and therefore they cannot abide Juniper. In *November* and *December*, while the seed time lasteth, they must have as much given them as they can desire, either of the forenamed food, or else of some better if need require; for it must be principally regarded, that the Cattel fall not into leanness in the Winter time, for leanness is the mother of many sicknesses in Cattel, and their utter overthrow, and therefore the benefits by their full feeding are many, as may appear by that common proverbe, *Bos ad acervum*, that is, an Ox to a whole heap, to signifie such men as live in all plenty and abundance. The like care must be had of their drink, for the Neat-herd must diligently look unto their drink, that it may be alway clear, and it is reported of the rivers *Crathis* and *Sibaris*, that the Cattel which drink of their water do turn white, whatsoever colour they had in former times.

They will live in strength and perfection twelve years, and their whole life is for the most part but twenty, *Kie* live not so long; the means to know their age is by their teeth and their horn, for it is observed that their reeth grow black in their age, and their horns wax more circled as they grow in years, although I dare not affirm that every circle betokeneth a years growth, (as some have written) yet I am assured the smooth horn sheweth a young beast. Moreover, although *Kie* will endure much cold and heat both in Winter and Summer, yet must you have more regard to your Oxen, and therefore it is required that they in the Winter cold weather be kept dry and housed in stals, which must be of convenient quantity, so as every Ox may be lodged upon straw, the floor made higher under their forefeet then their hinder, so as their urine may passe away and not stand to hurt their hoofs: and there be also allowed for the standing and lodging of every Ox eight foot in breadth, and a length answerable. The like regard must be had to their manger and rack, whereof the staves must not stand above one foot, or rather lesse from one another, that so they may not draw out their meat and stamp it underfoot.

But all the diet and food that the wit of man can ordain, will do them no manner of good if regard be not had to their bodily health, and preservation of strength, for which cause they must receive an ordinary medicine every quarter of the year; that is, in the end of the Spring, Summer, Autumn, and Winter; which in some places is thus made and given in potion, they take of Cypres, and Lupine leaves an equall quantity, beat them small, then set them in water in the open air a day and a night, and afterward give unto every one for three daies together warmed as much as a wine pinte.

In other places they give them to prevent sickness, a raw Egge, a handful of salt in a pinte of wine: and other put into the meat of Oxen, the foam of new oil mingled with water, first a little at once until they be accustomed unto it, and afterward more, and this they do every fourth or fifth day. *Cato* reciteth a certain vow or prayer, which the old Idolatrous *Romans* were wont to make for the health of their Cattel, to *Silvanus Mars*, which was on this manner. First, they take three pound of green wheat, and of Lard four pounds, and four pound and a half of fleshie sinews, and three pints and a half of wine, then put them into earthen pots with hony, and put in the wine by it self, and this they did yearly, but no woman might know how it is made, or be present at the time of the preparation, and it being made must be presently consumed by fire. Unto this ridiculous and superstitious idle invention, serving more to expresse the folly of man, then to benefit either man or beast, I may add that kind of sacrifice made for beasts, which *Pliny* calleth *Daps*, that was made in the Spring time when the Pear-tree did blossom, the manner whereof was thus, They did offer to *Jupiter Dapalis* a bowl of wine, on the same day the herd-men and herds make their sacrifice, saying in this manner, O *Jupiter Dapalis*, I offer unto thee this cup of wine, in the behalf of my self, family

The manner
how Oxen
feed far.
Herodotus.
Paul. Venet.

The time of
Oxens age.

The medicines
to preserve an
ox in strength.

Paxamus.

Vows and su-
perstitious me-
dicines for the
cure of Cattel.

and

and Cattel, if thou wilt perform that unto them which belongeth to thee, be good to this wine beneath, be good to this my sacrifice: Afterward the party washed his hands, and then drank the wine saying, O *Jupiter Dapalis*, be good to this my sacrifice, be good to this inferiour wise, and if thou wilt, give part thereof to *Vesta*: the sacrifice being ended he took Millet-seed, Lentils, Oxipanium, and Garlick: *Thus far Cato*; wherewith if any Reader be offended, let him remember to pity such poor remedies, and commend his Cattel to the true God, that saveth man and beast. The *Druides* of the *Gauls*, called a certain herb growing in moyst places *Samolus*; which being gathered by the left hand of them that were fasting, they gave it for an Antidote to Oxen and Swine. And *Galen* telleth of another superstitious cure for Oxen, when a man took the horn of a Hart, and layed it upon the Chappel of *Pan*, and set upon it a burning Candle, which must not be forgotten, but alway thought upon in the day time, calling upon holy *Demusaris*, which foolish people have thought as it were by a witchcraft, to cure the evils of their Cattel.

The discovery
of the sickness
of Cattel, and
the particular
cure thereof.

But to let passe these and such like trifles, let us follow a more perfect description and rule to cure all manner of diseases in this Cattel, whose safeguard and health next to a mans, is to be preferred above all other: and first of all the means whereby their sickness is discovered may be considered, as all Lassitude or wearisomeness through overmuch labour, which appeareth by forbearing their meat, or eating after another fashion then they are wont, or by their often lying down, or else by holding out their tongue, all which and many more signes of their diseases, are manifest to them that have observed them in the time of their health; and on the other side it is manifest, that the health of an Ox may be known by his agility, life and stirring, when they are lightly touched or pricked, starting, and holding their ears upright, fullness of their belly, and many other wayes.

There be also herbs which increase in Cattel divers diseases, as herbs bedewed with Hony bringeth the Murrain, the juyce of black *Chameleon* killeth young Kie like the Chine, black *Hellebore*, *Aconitum*, or Wolf-bane, which is that grasse in *Cilicia*, which inflameth Oxen, herb Henry, and others. It is also reported by *Aristotle*, that in a piece of *Thracia*, not far from that City which is called the City of *Media*, there is a place almost thirty furlongs in length, where naturally groweth a kind of Barley, which is good for men, but pernicious for beasts. The like may be said of *Aegolothros*, *Orebanche* and *Aestur*, but I will hasten to the particular description of their diseases.

The diseases
which infect
Oxen & Kie.

In the first place is the *Malis* or *Glaunders* already spoken of in the story of the Asse, which may be known by these signes, the Oxes hair will be rough and hard, his eyes and neck hang down, matter running out of the nose, his pace heavy, chewing his cud little, his backbone sharp, and his meat loathsome unto him; for remedy hereof take Sea-onions or Garlick, Lupines or Cipres, or else the foam of oil. And if a beast eat Hogs dung, they presently fall sick of the Pestilence, which infecteth the herbs and grasse they breath on, the waters whereof they drink, and the stals and lodgings wherein they lie. The humors which annoy the body of Oxen are many, the first is a moist one called *Malis*, issuing at the nose, the second a dry one when nothing appeareth outwardly, only the beast forsaketh his meat, the third an articular, when the fore or hinder legs of the beast halt, and yet the hoofs appear sound, the fourth is *Farcinious*, wherein the whole body breaketh forth into mattry bunches and biles, and appear healed till they break forth in other places, the fifth *Subtercutaneus*, when under the skin there runneth a humour that breaketh forth in many places of the body; the sixth a *Subrenal*, when the hinder legs halt by reason of some pain in the loins, the seventh a Maungie or Leprosie, and lastly a madness or Phrensie, all which are contagious, and if once they enter into a herd, they will infect every beast if they be not separated from the sick, and speedy remedy obtained.

Cursus boum
aut ciet alvum,
aut febrim
inducit.

The remedies against the last seven are thus described by *Columnella*. First take *Oxipanium* and sea-holy roots mingled with Fennel-seed and meal of beaten wheat rath-ripe; put them in spring water warmed with hony nine spoonfuls at a time, and with that medicine anoint the breast of the beast, then take the blood of a Sea-snail, and for want thereof a common Snail, and put it into wine, and give the beast in at his nose, and it hath been approved to work effectually. It is not good at any time to stir up Oxen to running, for chafing will either move them to looseness of the belly, or drive them into a Feaver: now the signes of a Feaver are these, an immoderate heat over the whole body, especially about the mouth, tongue and eares, tears falling out of the eyes, hollownes of their eyes, a heavy and stooping drowzie head, matter running out of his nose, a hot and difficult breath, and sometime sighing and violent beating of his veins and loathing of meat: for remedy whereof, let the beast fast one whole day, then let him be let blood under the tail fasting, and afterward make him a drink of bole-wort stalkes sod with oil and liquor of fish sauce, and so let him drink it for five daies together before he eat meat; afterward let him eat the tops of Lentils, and young small Vine branches, then keep his nose and mouth clean with a sponge, and give him cold water to drink three times a day, for the best means of recovery are cold meats and drinks, neither must the beast be turned out of doors, till he be recovered: When an Ox is sick of a cold, give him black wine, and it will presently help him.

If an Ox in his meat tast of hens dung, his belly will presently be tormented, and swell unto death if remedy be not given; for this malady, take three ounces of parsley seed, a pinte and a half of Cummin, two pounds of honey, beat these together and put it down his throat warme, then drive the beast up and down, as long as he can stand, then let as many as can stand about him

rub

rub his belly, untill the medicine work to purgation: and *Vegetius* addeth, that the ashes of Elm wood well sod in oil, and put down the beasts throat, cureth the inflammation of hen-dung. If at any time it happen, that an Ox get into his mouth and throat a horse-leech, which at the first will take fast hold, and suck the place she holds (be it mouth or throat) till she have kild the beast: if you cannot take hold on her with the hand, then put into the Oxes throat a Cane, or little hollow pipe, even to the place where the Leech sucketh, and into that pipe put warm oil, which as soon as the Leech feelth, she presently leaveth hold.

It fortuneth sometimes that an Ox is stung or bitten with a Serpent, Adder, Viper, or other such venomous beast; for that wound take sharp Trifoly, which groweth in rockie places, strain out the juice and beat it with salt, then scarifie the wound with that ointment, till it be wrought in. If a field-mouse bite an Ox, so as the dint of her teeth appear, then take a little Cumin or soft Pitch, and with that make a plaister for the wound: or if you can get another field-mouse, put her into oil, and there let it remain till the members of it be almost rotten, then bruise it and lay it to the sore, and the same body shall cure, whose nature gave the wound. Oxen are also much troubled with a disease called the Hide-bonnd; for remedy whereof, when the beast is taken from his work, and panteth, then let him be sprinkled over with wine, and put picces of fat into his mouth: if then you perceive no amendment, then seeke some Laurel, and therewith heat his back, and afterward with oil and wine scarifie him all over, plucking his skin up from the ribs, and this must be done in the sunshine, or else in a very warm place.

For the scabs, take the juice of Garlick, and rub the beast all over; and with this medicine may the biting of a Wolf or a mad Dog be cured: although other affirm, that the hoof of any beast with Brimstone, Oil, Water and Vinegar, is a more present remedy; but there is no better thing then Butter and stale Urine: When they are vexed with wormes, poure cold water upon them, afterward anoint them with the juice of onions mingled with Salt.

If an Ox be wrinched and strained in his sinews, in travel or labour, by stumping on any root or hard sharp thing, then let the contrary foot or leg be let bloud, if the sinews swell: If his neck swell, let him bloud, or if his neck be winding or weak (as if it were broken) then let him bloud in that ear to which side the head bendeth. When their necks be bald, grinde two tile together, a new one and an old, and when the yoak is taken off, cast the powder upon their necks, and afterward oil, and so with a little rest the hair will come again.

When an Ox hangeth down his ears and eateth not his meat, he is troubled with a *Cephalalgie*; that is, a pain in his head: for which, seeke Thyme in Wine, with Salt and Garlick, and therewith rub his tongue a good space: also raw Barly steeped in Wine, helpeth this disease. Sometime an Ox is troubled with madness, for which men burn them betwixt the horns in the forehead till they bleed: sometime there is a Flie which biting them continually, driveth them into madness; for which they are wont to cast Brimstone and bay sprigs sod in water in the Pastures where they feed, but I know not what good can come thereby. When Oxen are troubled with fleam, put a sprig of black *Hellebore* through their ears, wherein let it remain till the next day at the same hour. All the evils of the eyes are for the most part cured by infusion of Hony, and some mingle therewith *Ammoniack*, Salt, and *Boetick*. When the palat or roof of their mouth is so swelled that the beast forsaketh meat, and bendeth on the one side, let his mouth be paired with a sharpe instrument, or else burned or abated some other way, giving them green and soft meat till the tender sore be cured: but when the cheeks swell, for remedy whereof they sell them away to the Butcher for slaughter: it falleth out very often that there grow certain bunches on their tongues, which make them forsake their meat, and for this thing they cut the tongue, and afterward rub the wound with Garlick and Salt, till all the fleamy matter issue forth.

When their veins in their cheeks and chaps swell out into ulcers, they soften and wash them with Vinegar and Lees, till they be cured. When they are liver-sick, they give them *Rubarbe*, *Musbroms*, and *Gentian*, mingled together. For the Cough and short breath, they give them twigs of Vines, or Juniper mingled with Salt; and some use Betony.

There is a certain herb called *Asplenon* or *Citterach*, which consumeth the milks of Oxen, found by this occasion: in *Crete* there is a River called *Protereus*, running betwixt the two Cities *Gnoson* and *Gortina*, on both sides thereof there were herds of Cattel, but those which fed neer to *Gortina* had no Spleen, and the other which feed neer to *Gnoson* were full of Spleen: when the Physicians endeavoured to find out the true cause hereof, they found an herb growing on the coast of *Gortina*, which diminished their Spleen, and for that cause called it *Asplenon*. But now to come to the diseases of their breast and stomach, and first of all to begin with the Cough, which if it be new, may be cured by a pinte of Barley meal with a raw Egge, and half a pinte of sod wine: and if the Cough be old, take two pounds of beaten Hyssop sod in three pints of water, beaten Lentils, or the roots of Onions washed and baked with Wheat meal given fasting, do drive away the oldest Cough. For shortness of breath, their Neat-herds hang about their neck Deaths-herb and Harts-wort: but if their Livers or Lungs be corrupted, (which appeareth by a long Cough and leaness) take the root of Hasell, and put it through the Oxes ear; then a like or equall quantity of the juyce of Onions, and oil mingled, and put into a pinte of Wine, let it be given to the beast many dayes together. If the Ox be troubled with crudity, or a raw evill stomach, you shall know by these signes; he will often belch, his belly will rumble, he will forbear his meat, hanging down his eyes;

and neither chew the cud or lick himself with his tongue: for remedy whereof, take two quarts of warm water, thirty stalkes of *Boleworts*, see the them together till they be soft, and then give them to the beast with Vinegar.

But if the crudity cause his belly to stand out and swell, then pull his tail downward with all the force that you can, and binde thereunto Mother-wort, mingled with salt, or else give them a Glyster, or anoint a Womans hand with oil, and let her draw out the dung from the fundament; and afterward cut a vein in his tail with a sharp knife. When they be dis tempered with choler, burn their legs to the hoofs with a hot Iron, and afterward let them rest upon clean and soft straw: when their guts or intrails are pained, they are eased with the sight of a Duck or a Drake.

But when the small guts are infected, take fifteen *Cypres Apples*, and so many *Gauls*, mingle and beat them with their weight of old Cheese in four pints of the sharpest wine you can get, and so divide it into four parts, giving to the beast every day one quantity. The excrements of the belly do deprive the body of all strength and power to labour; wherefore when they are troubled with it, they must rest, and drink nothing for three daies together, and the first day let them forbear meat, the second day give them the tops of wilde Olives, or in defect thereof Canes or Reeds; the stalks of *Lentiske* and *Myrtill*; and a third day a little water, and unto this some add dried Grapes in six pintes of sharp wine, given every day in like quantity. When their hinder parts are lame through congealed blood in them, whereof there is no outward appearance, take a bunch of Nettles with their roots and put it into their mouths, by rubbing whereof the condensate blood will remove away.

When Oxen come first of all after Winter to grasse, they fall grasse-sick, and pisse blond; for which they see the together in water Barly, Bread, and Lard, and so give them all together in a drink to the beast: some praise the kernels of Walnuts put into Eggeshells for this cure; and other take the bloody water it self, and blow it into the beasts Nostrils; and herd-men by experience have found that there is no better thing then Herb-Robert, to stay the pissing of blood; they must also be kept in a stall within doors, and be fed with dry grasse and the best hay. If their horns be anointed with wax, oil, and pitch, they feel no pain in their hoofs, except in cases where any beast treadeth and presseth anothers hoof; in which case take oil and sod wine, and then use them in a hot Barly plaister or poulters layed to the wounded place: but if the plough-share hurt the Oxes foot, then lay thereunto Stone-pitch, Grease and Brimstone, having first of all seared the wound with a hot Iron bound about with shorn wool.

Now to return to the taming and instruction of Oxen. It is said that *Busris* King of Egypt was the first that ever tamed or yoaked Oxen, having his name given him for that purpose. Oxen are by nature meek, gentle, slow, and not stubborne, because being deprived of his genitals he is more tractable, and for this cause it is requisite that they be alwayes used to hand, and to be familiar with man, that he may take bread at his hand, and be tyed up to the rack, for by gentleness they are best tamed, being thereby more willing and strong for labour, then if they were roughly yoaked or suffered to run wilde without the society and sight of men. *Varro* saith, that it is best to tame them betwixt five and three year old, for before three it is too soon, because they are too tender; and after five it is too late, by reason they are too unweildy and stubborn.

How to tame
or yoak wilde
Oxen.

But if any be taken more wilde and unruly, take this direction for their taming: First, if you have any old tamed Oxen, joyne them together, (a wilde and a tame) and if you please, you may make a yoak to hold the necks of three Oxen; so that if the beast would rage and be disobedient, then will the old one both by example and strength draw him on, keeping him from starting aside, and falling down. They must also be accustomed to draw an empty Cart, Wain, or sled through some Town or Village, where there is some concourse of people, or a plow in fallowed ground or sand, so as the beast may not be discouraged by the weight and strength of the business; their keeper must often with his own hand give them meat into their mouth, and stroke their Noses, that so they may be acquainted with the smell of a man; and likewise put his hands to their sides, and stroke them under their belly, whereby the beast may feel no displeasure by being touched. In some Countries, they wash them all over with wine for two or three daies together, and afterward in a horn give them wine to drink, which doth wonderfully tame them, although they have never been so wild. Other put their necks into engins, and tame them by subtracting their meat. Other affirm, that if a wilde Ox be tyed with a halter made of wool, he will presently wax tame: but to this I leave every man to his particular inclination for this business; only let them change their Oxens sides, and set them sometime on the right side, and sometime on the left side, and beware that he avoid the Oxes heel, for if once he get the habite of kicking, he will very hardly be restrained from it again. He hath a good memory, and will not forget the man that pricked him, whereas he will not stir at another, being like a man in fetters, who dissembleth vengeance untill he be released, and then payeth the person that hath grieved him. Wherefore it is not good to use a young Oxe to a goad: but rather to awaken his dulness with a whip.

Rasis.

The understand-
ing of Oxen.

These beasts do understand their own names, and distinguish betwixt the voice of their keepers and strangers. They are also said to remember and understand numbers, for the King of Persia had certain Oxen, which every day drew water to *Susis* to water his Gardens, their number was an hundred Vessels, which through custom they grew to observe, and therefore not one of them would

would halt or loiter in that business, till the whole was accomplished: but after the number fulfilled, there was no goad, whip, or other means, could once make them stir, to fetch another draught or burthen. They are said to love their fellows with whom they draw in yoke most tenderly, whom they seek out with mourning if he be wanting. It is likewise observed in the licking of themselves against the hair, (but as *Cicero* saith) if he bend to the right side and lick that, it presageth a storm; but if he bend to the left side, he foretelleth a calmy fair day: In like manner, when he lougheth and smelleth to the earth, or when he feedeth fuller then ordinary, it betokeneth change of weather: but in the *Autumn*, if Sheep or Oxen dig the earth with their feet, or lie down head to head, it is held for an assured token of a tempest.

They feed by companies and flocks, and their nature is to follow any one which strayeth away; for if the Neat-herd be not present to restrain them, they will all follow to their own danger. Being angered and provoked they will fight with strangers very irefully, with unappeasable contention: for it was seen in *Rhetia*, betwixt *Curia* and *Velcuria*, that when the herds of two Villages met in a certain plain together, they fought so long, that of threescore, four and twenty were slain, and all of them wounded, eight excepted, which the inhabitants took for an ill presage or mischief of some ensuing calamity, and therefore they would not suffer their bodies to be covered with earth: to avoid this contention, skilful Neat-herds give their Cattel some strong herbs, as garlick and such like, that the savour may avert that strife. They which come about Oxen, Bulls, and Bugils, must not wear any red garments, because their nature riseth and is provoked to rage, if they see such a colour.

There is great enmity between Oxen and Wolves, for the Wolf (being a flesh-eating creature) lyeth in wait to destroy them; and it is said, that there is so great a natural fear in them, that if a Wolves tail be hanged in the rack or manger where an Ox feedeth, he will abstain from eating. This beast is but simple, though his aspect seem to be very grave; and thereof came the proverb of the Oxen to the yoke, which was called *Ceroma*; wherewithal Wraftlers and Prize-players were anointed, but when a foolish and heave man was anointed they said ironically *Bos ad ceroma*.

Again the folly of this beast appeareth by another *Greek* proverb, which saith, that *An Ox raiseth dust which blindeth his own eyes*; to signifie, that foolish and indiscreet men stir up the occasion of their own harmes. The manifold *Epithets* given this beast in *Greek* and *Latin* by sundry authors, do demonstratively shew the manifold conditions of this beast; as that it is called a Plower, Wilde, an earth-tiller, brazen-footed, by reason of his hard hoofs, *Cerebrous*, more brain then wit; horned, stubborn, horn-stiking, hard, rough, untamed, devourer of grasse, yoke-bearer, fearful, overtamed, drudges, wry-faced, slow, and ill favoured, with many other such notes of their nature, ordination, and condition.

There remain yet of this discourse of Oxen, two other necessary *Treatises*; the one natural, and the other moral. That which is natural, contains the several uses of their particular parts, and first for their flesh, which is held singular for nourishment, for which cause, after their labour which bringeth leanness, they use to put them by for sagination, or (as it is said) in *English* for feeding, which in all countries hath a several manner or custom. *Sotion* affirmeth, that if you give your Cattel when they come fresh from their pasture, Cabbage leaves beaten small with some sharp Vinegar poured among them, and afterward chaffe winowed in a sieve, and mingled with Bran for five daies together, it will much fatten and encrease their flesh, and the sixth day ground Barly, encreasing the quantity by little and little for six daies together.

Now the best time to feed them in the Winter is about the Cock crowing, and afterward in the morning twilight, and soon after that let them drink: in the Summer let them have their first meat in the morning, and their second service at noon, and then drink after that second meat or eating, and their third meat before evening again, and so let them drink the second time; It is also to be observed, that their water in Winter time be warmed, and in the Summer time colder. And while they feed, you must often wash the roof and sides of her mouth, for therein will grow certain Wormes which will annoy the beast, and hinder his eating, and after the washing, rub his tongue well with salt. If therefore they be carefully regarded they will grow very fat, especially if they be not over aged or very young at the time of their feeding; for by reason of age their teeth grow loose and fall out, and in youth they cannot exceed in fatness, because of their growth: above all Heifers and barren Kie will exceed in fatness, for *Varro* affirmeth, that he saw a field Mouse bring forth young ones in the fat of a Cow having eaten into her body she being alive: the self same thing is reported of a Sow in *Arcadia*: Kie will also grow fat when they are with Calf, especially in the midst of that time. The *Turks* use in their greatest feasts and Mariages, to roast or seethe an Ox whole, putting in the Oxes belly a whole Sow, and in the Soves belly a Goose, and in the Gooses belly an Egge, to note forth their plenty in great and small things: but the best flesh is of a young Ox, and the worst of an old one, for it begetteth an ill juyce or concoction, especially if they which eat it be troubled with a Cough or rheumy steame, or if the party be in a Consumption, or for a woman that hath ulcers in her belly, the tongue of an Ox or Cow salted and slit asunder, is accounted a very delicate dish, which the Priests of *Mercury* said did belong to them, because they were the servants of speech, and howsoever in all sacrifices the beasts tongue was refused as a profane member, yet these Priests made choise thereof, under colour of sacrifice to feed their dainty stomachs.

Guidus.
Ælianus.

The love of Oxen to their yoke-fellow.
Of the licking of Oxen, natural observations.

Their aptness to go astray.

The anger of Oxen & Kie.

Gillius.
Oxen provoked by colours.

Rafis.

The natural uses of the several parts of Oxen.

How to fatten Cattel.

A strange report of a fat Cow, if true.

The horns of Oxen by art of man are made very flexible and straight, whereof are made Combes, hafts for knives, and the ancients have used them for cups to drink in, and for this cause was *Bacchus* painted with horns, and *Crater* was taken for a cup, which is derived of *Kera* a horn. In like manner the first Trumpets were made of horns, as *Virgil* alludeth unto this sentence, *Ranco streperunt cornua canu*, and now adaies it is become familiar for the cariage of Gunpowder in war. It is reported by some husbandmen, that if seed be cast into the earth out of an Oxes horn (called in old time *Cerasbola*) by reason of a certain coldness, it will never spring up well out of the earth, at the least not so well as when it is sowed with the hand of man. Their skin is used for shooes, Garments, and Gum, because of a spongy matter therein contained, also to make Gunpowder, and it is used in navigation when a shot hath pierced the sides of the ship, presently they clapa raw Ox hide to the mouth of the breach, which instantly keepeth the Water from entering in: likewise they were wont to make bucklers or shieldes or hides of Oxen and Bugils, and the seven-folded or doubled shield of *Ajax*, was nothing else but a shield made of an Ox hide, so many times layed one piece upon another, which caused *Homer* to call it *Sacos heptaboeion*.

Of the teeth of Oxen I know no other use but scraping and making paper smooth with them; their gall being sprinkled among seed which is to be sown maketh it come up quickly, and killeth field-mice that tast of it, and it is the bane or poison of those creatures, so that they will not come neer to it, no not in bread if they discern it; and birds if they eat corn touched with an Oxes gall put into hot water first of all, and the lees of wine, they wax thereby astonished: likewise Emmets will not come upon those places where there remaineth any savour of this gall; and for this cause they anoint herewith the roots of trees. The dung of Oxen is beneficial to Bees if the hive be anointed therewith, for it killeth Spiders, Gnats, and drone-bees; and if good heed be not taken, it will work the like effect upon the Bees themselves: for this cause they use to smother or burn this kind of dung under the mouthes of the Hives in the spring time, which so displayeth and disperfeth all the little enemy-bees in Bee-hives that they never breed again. There is a proverb of the stable of *Auges*, which *Auges* was so rich in Cattel, that he defiled the Countrey with their dung, whereupon that proverb grew: when *Hercules* came unto him he promised him a part of his Countrey to purge that stable, which was not cleansed by the yearly labour of 3000 Oxen, but *Hercules* undertaking the labour turned a River upon it, and so cleansed all. When *Auges* saw that his stable was purged by art, and not by labour, he denied the reward; and because *Phyleus* his eldest Son reproved him for not regarding a man so well deserving, he cast him out of his family for ever.

The medicines
of the several
parts of Oxen
and Kie.

Refis.

Furnerins.

The manifold use of the members of Oxen and Kie in medicine, now remaineth to be briefly touched. The horn beaten into powder, cureth the Cough, especially the tips or point of the horn, which is also received against the Pitsick, or short breath made into pills with Honey. The powder of a Cowes horn mixed with Vinegar, helpeth the morphew, being washed or anointed therewith. The same infused into the Nostrils, stayeth the bleeding: likewise mingled with warm water and Vinegar, given to a *Splenitick* man for three daies together, it wonderfully worketh upon that passion: powder of the hoof of an Ox with water put upon the Kings evill helpeth it, and with Water and Honey it helpeth the apostemes and swelling of the body: and the same burned and put into drink, and given to a Woman that lacketh Milk, it encreaseth milk and strengtheneth her very much. Other take the tongue of a Cow, which they dry so long till it may be beaten into powder, and so give it to a woman in white wine or broath. The dust of the heel of an Ox or ancle bone, taken in wine and put to the gums or teeth do fasten them, and remove the ach away: The ribs of Oxen beaten to powder do stay the flux of blood, and restrain the abundance of monthly courses in women. The ancle of a white Cow laid forty daies and nights into wine, and rubbed on the face with white Linet, taketh spots and maketh the skin look very clear.

Where a man biteth any other living creature, seethe the flesh of an Ox or a Calf, and after five daies lay it to the sore, and it shall work the ease thereof. The flesh being warm layed to the swellings of the body, easeth them: so also do the warm blood and gall of the same beast.

The broath of beef healeth the loosness of the belly, coming by reason of choler; and the broath of Cowes flesh, or the marrow of a Cow, healeth the ulcers and chinks of the mouth. The skin of a Ox (especially the leather thereof) warm in a shooe, burned and applyed to pimples in the body or face, cureth them. The skin of the feet and nose of an Ox or Sheep, sod over a soft and gentle fire, untill there arise a certain scum like to glew from it, and afterward dried in the cold, windie air, and drunk helpeth (or at least) easeth burtness very much.

The marrow of an Ox, or the sewet, helpeth the strains of sinews if they be anointed therewith. If one make a small candle of Paper and Cowes marrow, setting the same on fire, under his browes or eye-lids which are bald without hair, and often anointing the place, he shall have very decent and comely hair grow thereupon. Likewise the sewet of Oxen helpeth against all outward poison: so in all Leprosies, Botches, and Scurviness of the skin, the same mingled with Goose grease, and poured into the eares, helpeth the deafness of them. It is also good against the inflammation of the ears, the stupidity and dulness of the teeth, the running of the eyes, the ulcers and rimes of the mouth, and stiffness of the neck. If ones blood be liquid and apt to run forth of the body,

body, it may be well thickned and retained, by drinking Ox blood mingled with Vinegar: and the blood of a Cow poured into a wound that bleedeth, stayeth the blood. Likewise the blood of Oxen cureth the scabs in Dogs.

Concerning their Milk, volumes may be written of the several and manifold virtues thereof, for the *Arcadians* refused all medicine, only in the Spring time when their beasts did eat grasse, they drank Cowes milk, being perswaded, that the virtue and vigour of all good herbs and fruits were received and digested into that liquor; for they gave it medicinally to them which were sick of the Pissick, of Consumption, of an old Cough, of the Consumption of the reins, of the hardness of the belly, and of all manner of poisons which burn inwardly; which is also the opinion of all the *Greek* Physitians: and the shell of a Walnut sod in Cow-milk and laid to the place where a Serpent hath bitten, it cureth it, and stayeth the poison.

The same being new and warm Gargarized into the throat, helpeth the soreness of the kernels, and all pain in the Arteries, and swelling in the throat and stomach: and if any man be in danger of a short breath, let him take daily soft pitch with the hearb *Mummie*, and Harts suet clarified in a Cup of new Milk, and it hath been proved very profitable.

Where the pains of the stomach come by sadness, Melancholy, or desperation, drink Cow-milk, Womans milk, or Asses milk, wherein a flint stone hath been sodden. When one is troubled with a desire of going often to the stool, and can egest nothing, let him drink Cow-milk and Asses-milk sod together; the same also heated with gads of Iron or steel, and mingled with one fourth part of water, helpeth the Bloody flux; mingled with a little Hony and a Bils gall, with Cummin and gourds layed to the Navel: and some affirm, that Cow-milk doth help conception, if a woman be troubled with the white flux, so that her womb be indangered, let her drink a purgation for her upper parts, and afterward Asses milk, last of all let her drink Cow-milk and new wine, (for forty daies together if need be) so mingled that the wine appear not in the milk, and it shall stay the flux. But in the use of milk, the rule of *Hippocrates* must be continually observed, that it be not used with any sharp or tarted liquor, for then it curdeth in the stomach, and turneth into corruption. The whey of Cow-milk mingled with Hony and Salt, as much as the tast will permit and drunk, looseneth the hardness of the belly.

The marrow of a Cow mingled with a little meal, and with new cheese, wonderfully stayeth the Bloody flux. It is affirmed, that there is in the head of an Ox, a certain little stone, which only in the fear of death he casteth out at his mouth, if this stone be taken from them suddenly by cutting the head, it doth make children to breed teeth easily, being soon tyed about them. If a man or woman, drink of the same water, whereof an Ox drunk a little before, it will ease the headach: and in the second venter of a Cow there is a round black *Tophus* found, being of no weight, which is accounted very profitable to Women in hard travails of child-birth. The Liver of an Ox or Cow dried, and drunk in powder cureth the flux of blood. The gall of a Cow is more forcible in operation then all other beasts galls whatsoever. The gall of an Ox mixed with Hony, draweth out any thorn or point of a needle or other Iron thing out of the flesh where it sticketh. Likewise it being mingled with Aloes and Myrrhe as thick as hony, it cureth those evils which creep and annoy the privie parts; laying upon it afterward Beets sod in wine.

It will not suffer the Kings evil to grow or spread it self if it be laid upon it at the beginning. The hands washed in an Oxes gall and water, are made white how black soever they were before time; and if purblind eyes be anointed with the gall of a black Cow, one may read any writing the more plainly: there is in the gall of an Ox a certain little stone, like a ring, which the Philosophers call *Alcheron* (and some *Guers* and *Nassatum*) which being beaten and held to ones Nose, it cleareth the eyes, and maketh that no humour do distil to annoy them: and if one take thereof the quantity of a Lintel seed, with the juice of Beets, it is profitable against the Falling evil. If one be deaf or thick of hearing, take the gall of an Ox and the urine of a Goat; or the gall of Goose: likewise, it easeth the headach in an Ague, and applyed to the temples provoketh sleep, and if the breasts of a woman be anointed therewith it keeps her milk from curdling.

The milt of an Ox is eaten in hony for easing the pains of the milt in a man, and with the skin that a Calf cast out of his dams belly, the ulcers in the face are taken away: and if twenty heads of Garlicke be beaten in a Oxes bladder, with a pinte of Vinegar, and laid to the back, it will cure the milt. It is likewise given against the Spleen, and the Colick made like a plaister, and layed to the Navel till one sweat.

The urine of an Ox causeth a cold stomach to recover, and I have seen that the urine of a Cow taken in Gargarizing, did cure intolerable ulcers in the mouth. When the Bee hath tasted of the flower of the Corn-tree, she presently dyeth by looseness of the belly, except she tast the urine of a Man or an Ox.

There are likewise many uses of the dung of Oxen made in Physick, whereof Authors are full, but especially against the Gowt, plaistering the sick member therewith hot and newly made: and against the Dropsie, making a plaister thereof with Barley meal and a little Brimstone aspersed, to cover the belly of a man. And thus much for the natural properties of this kind, now we will briefly proceed to the moral.

The moral uses of this beast, both in labour and other things, do declare the dignity and high account our forefathers made hereof, both in Vintage, Harvest, Plowing, Carriage, Drawing,

Pliny.
A History.

The moral
and external
use of Oxen
both for labour
and other in-
dustry.

Varro.

Sacrificing, and making Leagues of truce and peace; in so much as that if this failed, all tillage and vintage must in many places of the world be utterly put down; and in truth, neither the fowls of the air, nor the Horse for the battle, nor the Swine and Dogs could have no sustenance but by the labor of Oxen: for although in some places they have Mules, or Camels, or Elephants, which help them in this labor, yet can there not be in any Nation a neglect of Oxen; and their reverence was so great, that in ancient time when an offender was to be fined in his Cattel (as all americiaments were in those daies) the Judge might not name an Ox, untill he had first named a Sheep; and they fined a smal offence at two Sheep and not under, and the greatest offence criminal, at thirty Oxen and not above, which were redeemed, by giving for every Ox an hundred Asses, and ten for every Sheep.

Heraclides.

It is some question among the ancients, who did first joyn Oxen together for plowing; some affirming that *Aristeus* first learned it of the *Nymphs*, in the Island *Co*: and *Diodorus* affirmeth, that *Dionysius* Son of *Jupiter* and *Ceres* or *Proserpina*, did first of all invent the plow. Some attribute it to *Briges* the *Athenian*; other to *Triptolemus*, *Osiris*, *Habides* a King of *Spain*; and *Virgil* affirmeth most constantly, that it was *Ceres*, as appeareth by this verse;

*Prima Ceres ferro mortales vertere terram
Instituit, &c.*

Augustinus.

Whereunto agreeth *Servius*: but I rather incline to *Josephus*, *Lactantius* and *Eusebius*, who affirm, that long before *Ceres* was born, or *Osiris*, or *Hercules*, or any of the residue, their was a practise of plowing, both among the *Hebrews* and *Egyptians*; and therefore as the God of plowing called by the *Romans* *Jugatinus* (because of yoking Oxen) was a fond aberration from the truth, so are the residue of their inventions about the first man that tilled with Oxen: seeing it is said of *Cain* and *Noah*, that they were husbandmen and tilled the earth. The *Athenians* had three several plow-feasts which they observed yearly, one in *Scirus*, the other in *Rbaria*, and the third under *Pelinus*: and they call their marriage-feasts, plow-seasons, because then they endeavoured by the seed of man to multiply the world, in procreation of children, as they did by the plow to encrease food in the earth.

The *Grecians* had a kind of writing called *Boustraphedon*, which began, turned, and ended as the Oxen do in plowing a furrow, continuing from the left hand to the right, and from the right hand to the left again, which no man could read, but he that turned the Paper or Table at every lines end. It is also certain, that in ancient time, the leagues of truce and peace were written in an Oxes hide, as appeareth by that peace which was made by *Tarquinius*, betwixt the *Romans* and the *Gabii*, the which was hanged up in the Temple of *Jupiter*, as *Dionysius* and *Pompeius Sextus* affirm (in the likeness of a buckler or shield:) and the chief heads of that peace remained legible in that hide, unto their time, and therefore the ancients called the Oxes hide a shield, in regard that by that conclusion of peace, they were defended from the wars of the *Gabii*.

A History.

And there were certain people called *Homolotti* by *Herodotus*, who were wont to strike up their leagues of peace after war and contention, by cutting an Ox into small pieces, which were divided among the people that were to be united, in token of an inseparable union. There be that affirm, that a Team or yoke of Oxen, taking six or eight to the Team, wil plow every year, or rather every season a hyde of ground; that is, as some account 20 *Mansa*, or in *English* and *Germane* account 30 Acres; which hath gotten the name *Jugera* from this occasion, as *Eustathius* and *Varinus* report. When *Sycheus* the husband of *Dido*, who was daughter of *Agenor* & sister to *Pygmalion*, wandered to and fro in the world with great store of treasure, he was slain by *Pygmalion* secretly, in hope to get his wealth: After which time, it is said, that he appeared to his wife *Dido*, bidding her to save her life from her cruell brother; who more esteemed money then nature, she fled into *Lybia*, taking with her some *Tyrians* among whom she had dwelled, and a competent sum of money; who being come thither, craved of *Iarbas* King of *Nomades*, to give her but so much land as she could compass in with an Oxes hide, which with much ado she obtained, and then did cut an Oxes skin into smal and narrow thongs or lists, where-withall she compassed in so much as builded the large City of *Carthage*, and first of all was called the New City, and the Castle thereof *Byrsa*, which signifieth a Hide.

Clemens.

Eustathius also reporteth another story to the building of this City, namely that it was called *Carthage* of one of the daughters of *Hercules*, and that when *Elisa* and the other companions of *Dido* came thither for the foundation of the City, they found an Oxes head, whereupon they were discouraged to build there any more, supposing that *Omen* betokened evill unto them, and a perpetual slavery in labour and misery, such as Oxen live in, but afterward they tryed in another corner of that ground, wherein they found a Horses head, which they accepted as a good signification of riches, honour, magnanimity, and pleasure, because Horses have all food and maintenance provided for them. Among the *Egyptians* they paint a Lion for strength, an Ox for labor, and a Horse for magnanimity and courage, and the Image of *Mithra* which among the *Persians* signifieth the Sun, is pictured in the face of a Lyon holding the horns of a striving Ox in both hands, whereby they signifie that the Moon doth receive light from the Sun, when she beginneth to be separated from her beams.

Giraldus.

Pliny.

There is in the Coasts of *Babylon* a Gem or precious stone like the heart of an Ox, and there is another called *Sarcites*, which representeth the flesh of an Ox. The ancients had like-

wife

wife so great regard of this beast, that they would neither sacrifice nor eat of a labouring Ox; wherefore *Hercules* was condemned when he had desired meat of *Theodomantis* in *Dyrpia*, for his hungry companion the Son of *Hyla*, because by violence he took from him one of his Oxen and slew him. A crowned Ox was also among the *Romans* a sign of peace; for the Souldiers which kept the Castle of *Anatbon* neer the river *Euphrates* against *Julianus* and his Army, when they yeelded themselves to mercy, they descended from the Castle, driving before them a crowned Ox: from this manifold necessity and dignity of this beast came the Idolatrous custom of the Heathens, and especially the *Egyptians*, for they worshipped him instead of God calling him *Apis* and *Epaphus*: whose choyce was on this sort. He had on his right side an exceeding splendent white spot, and his horns crooking together like the new Moon, having a great bunch on his tongue, which they call *Cambarus*: neither do they suffer him to exceed a certain number of years, or grow very big, for these causes they give him not of the water of *Nilus* to drink, but of another consecrated well, which hindereth his growth: and also when he is come to his full age, they kill him, by drowning him in another consecrated well of the Priests: which being done, they seek with mourning another (having shaved their heads) to substitute in his place, wherein they are never very long but they finde one, and then in a holy Ship, sacred for that purpose, they transport and convey him to *Memphis*. And the *Egyptians* did account him a blessed and happy man, out of whose fold the Priest had taken that Ox-God. He hath two Temples erected for him, which they call his Chambers, where he giveth forth his Augurisms, answering none but children and youths playing before his Temples: and refusing aged persons, especially women; and if any not sacred, happen to enter into one of his Temples, he dyeth for it, and if into the other, it fore-sheweth some monstrous cursed event, as they fondly imagine.

Marcellus.

Idolary committed with Oxen and Kye. Of the choice of *Apis*.

The manner of his answers is privately to them that give him meat, taking it at their hands; and they observe with great religion, that when *Germanicus* the Emperour came to ask counsel of him, he turned from him and would not take meat at his hand; for presently after he was slain. Once in a year they shew him a Cow, with such marks as he hath, and alway they put him to death upon the same day of the week that he was found; and in *Nilus* neer *Memphis*, there was a place called *Phiala*, where were preserved a Golden and a Silver dish, which upon the birth or Calving days of *Apis*, they threw down into the river, and those days were seaven; wherein they affirm that never man was hurt by Crocodiles. The *Egyptians* do also consecrate an Ox to the Moon, and a Cow to *Urania*. It is reported that *Mycerinus* King of *Egypt*, fell in love with his own Daughter: and by violence did ravish her; she not able to endure the conscience of such a fact, hanged herself: whereupon the King her impure father, did bury her in a wooden Ox, and so placed her in a secret place or chamber, to whom daily they offer many odours; but the mother of the maiden did cut off the hands of those Virgins or Women that attended on her Daughter, and would not rescue her from so vile a contempt. There were also many other pictures of Oxen, as in *Coreyra* and *Eretria*; and most famous was that of *Perillus*, which he made and presented to *Phalaris* the Tyrant of *Agigent*, shewing him; that if he would torment a man, he should put him into that Ox set over a fire, and his voyce of crying should be like the loughing of a Heifer; which thing being heard of, the Tyrant to shew his detestation of more strange invented torments then he had formerly used, he caused *Perillus*, that presented it unto him, to be put into it alive, and so setting it over a fire, made experiment of the work upon the workman, who bellowed like a Cow, and was so tormented to death for that damnable and dangerous invention; which caused *Ovid* to write thus:

A History;

Herodotus.

A History.

Of the pictures of Oxen,

Et Phalaris tauro violentus membra Perilli
Torrnit: infelix imbuit author opus.

When an Ox or Cow in ancient time did dye of themselves, (*Viz.*) if it were an Ox, they buried him under the walls of some City, leaving his horn sticking visibly out of the earth, to signifie the place of his burial, for when his flesh was consumed, they took it up again, and buried the bones in the Temples of *Venus* in other places: but the body of a dead Cow they cast into some great River neer adjoining. The Poets have faigned a certain Monster called *Minotaurus*, having in part the form of a man, and in part the form of a Bull; and they say, that *Pasiphae* the Daughter of the *Sun* and wife of *Minos*, King of *Crete*, fell in love with a Bull, and by the help of *Dedalus*, she was included in a wooden Heifer, covered with a Cows hide, and so had copulation with the Bull, and so came that monster *Minos* included in a labyrinth; and constrained the *Athenians*, who had slain his son *Androgeus*, to send every year seven young men, and seven maids to be given to that Monsters to feed upon, for he would eat mans flesh. At last *Theseus* son of *Aegens* King of *Athens*, came into that labyrinth, and slew that *Minotaure*, and by the help of *Ariadne* escaped out of the labyrinth. Other relate the story in this manner; that when the *Cretenfians* would have expelled *Minos* from his Kingdom; he vowed that whatsoever likeness first appeared out of the Sea for sign of victory unto him, he would sacrifice it to the Gods, if he did enjoy his Regiment: and thereupon a goodly Bull came unto him out of the Sea, wherewithall he was delighted: But after he had recovered his Kingdom in quiet, he kept that Bull in his own hands, and sacrificed another; and that by this Bull was the *Minotaure* begotten on his wife *Pasiphae*. But the truth is; that when *Minos* was in danger to lose his Kingdom; one *Taurus*, a valiant Prince and Captain, came with a Navy

Of the monster *Minotaurus*.

of

of good souldiers, and established him in quiet. Afterward falling in love with *Pasiphae* King *Minos* wife, he lay with her in the house of *Dædalus*: which *Dædalus* wrought with the Queen to give him his pleasure, and that the *Minotaure* was a Monster in *Crete*, that had the face of an Oxe, and the other members like a man, such an one was seen in *Aristotles* time. Although other take it for a fiction; because the *Romans* had it pictured in their Ensigns of war, untill *Caius Marius* altered it to an Eagle, which remaineth to this day. *Alciatus* yeeldeth this reason, why the *Romans* gave such an arms, to signifie that secrecie becometh a Captain, and that proud and crafty counsels do hurt the authors of them.

*Limine quod cæco obscura & caligine monstrum
Gnosiacis clausit Dædalus in latebris:
Depictum Komana phalanx in prælia gestat,
Semiviroque nitent signa superba bove:
Nosque monent debere ducum secreta latebre
Consilia, auctori cognita techna nocet.*

It is reported also, that when *Cadmus* went from *Delphos* to *Phocis*, an Oxe did direct him in the way, and was his guide; which Oxe was brought out of the herds of *Pelagosa*, having in both his sides a white spot: it must needs be understood of the Moon, for *Cadmus* flying by night, having the Moon to shine upon him (which is Hieroglyphically deciphered by the Oxe,) gave him light and direction to another City. It were endless to prosecute the several speeches, proverbs, allusions, emblems, plays, prizes, and hieroglyphicks made upon Oxen; whereby, men and women, Cities, Regions, and People have taken denomination from Oxen; but also some of the stars in the firmament: therefore I will not proceed to those devises, but only touch the sacrifices made with Oxen, and so conclude this story.

It cannot be denied, that the prime institution of sacrifices, was from, by, and for the Ordinance of God, to teach the world to worship him in blood for sin: which could not be expiated but by the blood of the only immaculate Son and Lamb of God; and therefore I will but remember how corruption polluted that Ordinance, which was purely without idle Ceremonies instituted by the everlasting God; and yet was by mans invention made wretched, horrible, and damnable, through abuse of the fact, that otherwise by divine constitution (as appears in holy Scripture) was heavenly, honourable and blessed.

To begin therefore with the original of that Heathenish and Paganish sacrifice, in stead of God the only true and divine Essence, to whom all sacrifice and divine worship was due, and whose creatures, both Men, Oxen, and all other living and visible things are; they offered unto all the hoasts of Heaven, the Sun, and Stars, the Heathen gods, *Jupiter*, *Mars*, *Minerva*, *Pandrusus*, and others: and if the Sacrifice were costly and sumptuous, it was called *Hecatombe*. Now before their Sacrifice they made Prayers, burned Incense for odours, presented *Prothymes* (as they were termed) certain preparations and cakes made of Barley and Salt, (called *Vlochyta*.) After which, the Priest turned him sometimes to the right hand, and sometimes to the left, and then began to take the gristle hairs growing on the Oxes fore-head betwixt his horns, making a taste of them, and casting them in the fire to begin the Sacrifice. Then did he give into the hands of the people standing by, little pots of Wine likewise, to taste for Sacrifice, and then he which killed the beast drew his knife, or axe, or cleaver, from the head to the tayl of the beast. Now in every Sacrifice they had burning torches, which were lawful for none to carry but for men, and not women; then the Priest commanded to kill the Sacrifice, which sometime they did by knocking him on the head, if the beast were to be sacrificed to Hell, and those that were therein; for they sacrificed a barren Cow, or a black Sheep to those ghosts. But if the Sacrifice were for Heaven, and to the powers thereof, they lifted up his head and cut his throat: then put they under him their *Sphagian* vessels to receive his blood, and when the beast was slain down, they flayed off his skin.

Then did the Priest or *Flamen* divide the intrails, that so he might make his augurism (the bowels being proved at the Altar.) Having looked into the bowels, they took out of every gut, member and part, a first fruits, moulded them together in the meal of green wheat-corn, then was it given to the Priest, who put thereunto frankincense, herbmary, and fire, and so burned them all together, which was called a perfect Hoast. But if they sacrificed to the gods of the Sea, then did they first of all wave the bowels of the beast in the Sea-floods before it was burned. The best Sacrifices were fatted and white Oxen or Kine, such as had never been under yoke; for the beast used to labour was accounted unclean: they never offered in Sacrifice one under thirty days old, nor over five years by the laws of the Priests. When the *Spartanes* overcame their enemies by stratagem, they sacrificed to *Mars* an Oxe; but when by open force, they sacrificed a Cock; for they esteemed more of an unbloody than a bloody victory. When a man sacrificed a Cow to *Minerva*, he was bound to Sacrifice a Sheep and an Oxe to *Pandrusus*.

When the *Locrensiens* in a publick spectacle would make a Sacrifice, they wanted an Oxe; for which cause they gathered together so many sticks of small wood, as made the Image of an Oxe artificially conjoynd together, and so setting it on fire burned it for an offering: wherenpon a *Locrensiens* Oxe, was an Ironical Proverb, for a Sacrifice of no weight or merit. It is also reported, that an Heifer being brought to the Altar of *Minerva* to be sacrificed, did there Calve; wherefore the

the Priests would not meddle with her, but let her go away free; because *Minerva* was the goddess of procreation; holding it an impious thing to kill that in Sacrifice which had brought forth a young one at the Altar: to conclude, as *Vegetius* saith, that on a time Justice was so offended with men, because they imbrewed every Altar with the blood of Oxen and Cattel, that therefore she left the Earth, and retired back again to dwell among the Stars: so will we in this discourse cease from any further prosecution of the Moral or Natural description of these Beasts, leaving their lawful use to the necessity of mankind, and their abusive idolatrous sacrifices to him that loveth all his creatures, and will require at mans hand an account of the life and blood of brute beasts.

Of the C A L F.

A Calf, is a young or late enixed Bull or Cow, which is called in *Hebrew*, *Egel*; or *Par*: and sometimes *Ben-bakar*, the son of an Oxe. Yet *Rabbi Solomon*, and *Abraham Ezra*, expound *Egel*, for a Calf of one year old. The *Savazens* of that word call a Calf *Hesel*. The *Græcians*, *Moschos*; whereof is derived *Moscharios*: but at this day they call him *Mouskari*, or *Moschare*. The *Italians*, *Vitello*; the *French*, *Veau*; the *Spaniards*, *Ternera* of *Teneritudo*, signifying tenderness; and sometimes *Bezeron* and *Vezerro*; the *Germans*, *Ein Kalb*; the *Flemmings*, *Kalf*; and the *Latines*, *Vitulus*, of the old word *Vitutor*, signifying to be wanton, for Calves are exceedingly given to sport and wantonness; or as other suppose from the *Greek* word *Italous*, came *Vitulus*; and therefore the *Latines* do not alway take *Vitulus* for a young or new foaled beast, but sometime for a Cow, as *Virgil Eclog.*

The definition and name.

The etymology of *Vitulus*.

Ego hanc vitulam (ne forte recuses,
Bis venit ad mulierem, binos alit ubere fetus)
Depono.

And this word (like the *Greek*, *Moschos*) signifieth male and female: whereunto by divers Authors both *Greek* and *Latine*, are added divers Epithites by way of explication, both of the condition, inclination, and use of this young beast; calling it wilde, ripe for the temples, unarmed, weak, sucklings, tender, wandring, unhorned, and such like. And because the Poets saign that *Io* was turned into a Cow, and that the violet herb was assigned by *Jupiter* for her meat; they derive *Viola*, a Violet, from *Vitula* a Calf, by a kinde of *Græcian* imitation.

The Epithites of a Calf.

It is also certain that the honor of this young beast have given denomination to some men, as *Pomponius Vitulus*, and *Vitulus Niger Turanius*, and *Vitellius* was derived from this stem or theam, although he were an Emperour. The like may be said of *Moschos* in *Greek*, signifying a Calf; for there was one *Moschus* a Sophist that drank nothing but water, and there was another *Moschus*, a Grammarian of *Syracuse*, whom *Athenæus* doth record, was a familiar of *Aristarchus*, and also of another, a Poet of the *Bucolicks*; and this serveth to shew us, that the love our Ancestors bare unto Cattel, appeared in taking upon them their names, and were not ashamed in those elder times, wherein wisdom and invention was most pregnable, to glory in their herds from which they received maintenance. But to the purpose, that which is said of the several parts of an Oxe and a Cow, belongeth also to a Calf; for their Anatomy differeth not, because they are conceived and generated by them, and in them: and also their birth, and other such things concerning that, must be inquired in the discourse of a Cow.

Varræ.

Men named after Calves.

It is reported by an obscure Author, that if the hoof of a Calf be not absolved or finished in the Dams belly before the time of Calving, it will dye. And also it must be observed, that the same diseases which do infect and harm an Oxe, do also befall Calves, to their extreme perill: but they are to be cured by the same fore-named remedies. And above the residue, these young beasts are troubled with worms, which are ingendered by crudity, but their cure is to keep them fasting till they have well digested their meat, and then take lupines half sod, and half raw, beaten together, and let the juyce thereof be poured down his throat; otherwise take dry figs and fitches beaten together with *Santonica*, called Lavender-cotten, and so put it down the calves throat as aforesaid, or else the fat of a Calf and Marrube with the juyce of Leeks, will certainly kill these Evils. It is the manner to regard what Calves you will keep, and what you will make of and kill either for sacrifice, as in an ancient time, or private use, and to mark and name those that are to be reserved for breed and labour, according to these verses:

A secret by the hoof.

The diseases of a Calf.
The cure of worms.

To choose Calves for store.

Post partum curant, vitulus traducitur omnis,
Et quos aut pecori malunt submittere babendo.
Continuoque notas & nomina gentis inurunt,
Aut aris servare sacris, aut scindere terram,
Et campum horrentem fractis invertere glebis.

And all these things are to be performed immediately after their weaning: and then in the next place you must regard to geld the males, which is to be performed in *June*, or as *Magus* saith, in *May*, or at the farthest let them not be above a year old; for else they will grow very deformed and small: but if you lib them after two years old, they will prove stubborn and intractable; wherefore it is better to geld them while they be young ones, which is to be performed not with any

The libbing of Calves.

Aristotle.
Sotion.
Varro.

any knife or iron instrument, because it will draw much blood, and indanger the beast through pain, but rather with a cloven reed or stick, pressing it together by little and little: but if it happen that one of a year or two years old be to be libbed, then you must use a sharp knife, after you have pressed the stones into the cods, and cut them out at one stroke, and for stanching of the blood, let the cod, and the ends of the veins be seared with an hot iron, and so the wound is cured as soon as it is made.

Palladius.
Sotion.
Columella.
Varro.

And now the time for the effecting hereof, is best in the wane of the Moon, either in the Spring or Autumn; but it is good to leave as many of the veins and nerves of the virile member untouched and whole as may be, that so he may not lose any condition of a male, except the power of generation. And if the wound be overmuch given to bleed, lay upon it ashes with the spume of silver, which is apt to stanch blood in all green wounds; and that day let him not drink, and eat but a very little meat: for three days after give him green tops or grass, soft and easie to chew, and at the third days end, anoint the wound with liquid pitch, ashes, and a little Oyl; which will soon cure the scar and keep the flies from stinging or harming it. If at any time a Cow cast her Calf, you may put unto her another Calf, that hath not suckt enough from his own Dam; and they use in some Countries to give their Calves Wheat-bran, and Barly-meal, and tender meat; especially regarding that they drink morning and evening. Let them not lye together in the night with their Dam, but asunder, untill their sucking time, and then immediately separate them again, unless the Cow be well fed when the Calf sucketh; her ordinary food will yeeld no great tribute of Milk; and for this cause you must begin to give the Calf green meat betimes. Afterward being weaned, you may suffer those young ones to feed with their Dams in the Autumn, which were calved in the Spring. Then in the next place, you must regard the taming of the beast, being ready for labour, which is expressed in the former treatise of an Oxe.

Food for
Calves.

Sacrifices of
Calves.

Pliny.
Celsus.
Josephus.
A wonder.
Monsters of
Calves.

The Ancients called *Vittoria* by the name of the Goddess *Vitula*, because they sacrificed unto her Calves, which was tearmed a *Vitulation*: and this was usual for victory and plenty, as is to be seen at large in *Giraldus*, *Macrobius*, *Nonius*, *Ovid*, and *Virgil*: but the Heathens had this knowledge, that their Gods would not accept at their hands a lame Calf for a Sacrifice, although it were brought to the Altar; and if the tail of the Calf did not touch the joynts of his hinder legs, they did not receive him for Sacrifice. And it is said of *Æmilius Paulus*, when he was to go against the *Macedonians*, he sacrificed to the Moon in her declination eleven Calves. It is very strange, that a Calf being ready to be sacrificed at the Temple of *Ierusalem*, brought forth a Lamb, which was one fore-shewing sign of *Ierusalem*'s destruction. But *Aristotle* declareth, that in his time, there was a Calf that had the head of a childe; and in *Luceria* a Town of *Helvetia*, was there a Calf which in his hinder parts was a Hart.

Nic. Villagag.

When *Charles* the fifth, went with his Army into *Africk*, and arrived at *Larghera*, a Noble City of *Sardinia*, there happened an exceeding great wonder; for an Oxe brought forth a Calf with two heads; and the woman that did owe the Oxe, presented the Calf to the Emperor: and since that time I have seen the picture of a more strange beast calved at *Bonna*, in the Bishoprick of *Colen*, which had two heads; one of them in the side not bigger then a Hares head, and two bodies joynd together; whereof the hinder parts were smooth and bald, but the tail black and hairy; it had also seven feet; whereof one had three hoofs: this Monster lived a little while, and was brought forth in *Anno 1552*. the 16. day of *May*, to the wonder and admiration of all them, who either knew the truth, or had seen the picture.

The flesh of
Calves.

Butchers are wont to buy Calves for to kill, and sell their flesh; for in all creatures, the flesh of the young ones are much better then the elder, because they are moist and soft, and therefore will digest and concoct more easily: and for this cause Kids, Lambs, and Calves, are not out of season in any time of the year; and are good from fifteen days to two months old, being ornaments to the Tables of great Noble men; which caused *Fiera* to make this *Distichon*:

*Affiduos habeant vitulum tua prandia in usus,
Cui madida & sapida juncta tepore caro est.*

And principally the *Germans* use the chawthern, the head, and the feet, for the beginning of their meals; and the other part either roasted, or baked, and sometime sod in broath, and then buttered, spiced and sauced, and eaten with Onyons.

Pliny.
Of the medi-
cines.

The Medicines arising from this beast, are the same that come from his Sires before spoken of, and especially the flesh of a Calf doth keep the flesh of a new wound, (if it be applyed thereunto) from swelling, and being sodden, it is precious against the bitings of a mans teeth: and when a mad Dog hath bitten a man or a beast, they use to pare the wound to the quick; and having sodden Veal mingled with the sewer and heel, they lay some to the wound, and make the patient drink of the broath: and the same broath is sovereign against all the bitings of Serpents. The horns of a Calf sod soft, are good against all intoxicate poyson, and especially Hemlock. The powder of a Calves thigh drunk in Womans Milk, cureth all filthy running Ulcers; and out of the brains of a Calf they make an Oyntment, to loosen the hardness of the belly. The marrow softneth all the joynts, driveth away the bunches arising in the body; having an operation to soften, fill, dry and heat. Take Oyl, Wax, Rust, and the marrow of a Calf, against all bunches in the face: and Calves marrow with an equal quantity of Whay, Oyl, Rose-cake and an Egge, do soften the hardness of the

Pliny.

Pliny.

Nicander.

Rafis.

Marcellus.

the cheeks and eye-lids, being laid to for a plaister, and the same mixed with Cummin, and infused into the ears, healeth the pains of them: and also easeth the Ulcers in the mouth.

The marrow with the sewer compos'd together, cureth all Ulcers and corruptions in the Secrets of Men and Women. The Fat pounded with Salt, cureth the Louzy evill, and likewise the ulcerous sores in the head. The same mixed with the fat of a Goose, and the juyce of Basil or wilde Cummin, and infused into the ears, helpeth deafness and pains thereof. The fat taken out of the thigh of a Calf, and sod in three porringers of water, and supped up, is good for them that have the Flux: and the dung of a Calf fryed in a pan, laid to the Buttocks and Secrets, doth wonderfully cure the Bloodyflux: also laid to the reins, provoketh Urine: and sod with Rue, cureth all the inflammations in the seat of a man or woman. The Sewer of a Calf with Nitre, asswageth the swelling of the cods, being applyed to them like a plaister: and the Sewer alone, doth cure the peeling of the Nails. The Liver with Sage leaves cut together, and pressed to a liquor, being drunk, easeth the pain in the small of the Belly. The gall mingled with powder of a Harts-horn, and the Seed of Marjoram, cureth Leprosies and Scurfs; and the gall alone anointed upon the head, driveth away nits. The milt of a Calf is good for the milt of a man, and for Ulcers in the mouth; and glew made of his stones, as thick as Hony, and anointed upon the leprous place, cureth the same, if it be suffered to dry thereupon.

Pliny.

Marcellus.

Leonellus.
Pliny.

With the dung of Calves they perfume the places which are hurt with Scorpions; and the ashes of this dung with Vinegar, stayeth bleeding. Marcellus magnifieth it above measure, for the cure of the Gout, to take the fime of a Calf which never eat grass, mixed with lees of Vinegar; and also for the deafness of the ears, (when there is pain withall) take the Urine of a Bull, Goat, or Calf, and one third part of Vinegar well sod together, with the herb *Fullonia*, then put it into a flagon with a small mouth, and let the neck of the Patient be perfumed therewith.

Of the supposed Beast CACUS.

There be some of the late Writers, which take the *Cacus* spoken of by *Virgil* in his eight Book of *Aeneids*, to be a wilde beast, which *Virgil* describeth in these words:

*Hic spelunca fuit, vasto submota recessu:
Semihominis Caci: facies quam dira tegebat,
Solis inaccessam radiis, semperque recenti
Cæde tepebat humus, foribusque affixa superbis
Ora virum tristi pendebant pallida tabo.
Huic monstro Vulcanus erat pater: illius atros
Ore vomens ignes magna se mole ferebat.
Nequeunt expleri corda tuendo:
Pectora semiferi atque extinctos faucibus ignes;*

That is, *Cacus* was half a beast and half a man, who had a cave in the earth against the Sun, his Den replenished with the heads of men; and he himself breathing out fire, so that the earth was warmed with the slaughter of men slain by him, whose slaughter he fastened upon his own doores, being supposed to be the son of *Vulcan*. And there be some that affirm this *Cacus*, to have wasted and depopulated all *Italy*; and at length when *Hercules* had slain *Geryon*, as he came out of *Spain* through *Italy* with the Oxen which he had taken from *Geryon*, *Cacus* drew divers of them into his cave by their tails: but when *Hercules* missed daily some of Cattel, and knew not which way they strayed, at last he came to the den of *Cacus*: and seeing all the steps stand forward, by reason the cattel were drawn in backward, he departed; and going away, he heard the loughing of the Oxen for their fellows, whereby he discovered the fraud of *Cacus*: whereupon he presently ran and took his club, the Monster being within his cave, closed up the mouth thereof with a wonderful great stone, and so hid himself for fear: but *Hercules* went to the top of the Mountain, and there digging down the same, untill he opened the cave, then leaped in suddenly and slew the Monster, and recovered his Oxen.

But the truth is, this forged *Cacus* was a wicked servant of *Evander*, which used great robbery in the Mountains, and by reason of his evill life was called *Cacus*; for *Cakos* in *Greek* signifieth evill. He was said to breath forth fire, because he burned up their corn growing in the fields, and at last was betrayed of his own Sister; for which cause she was deified, and the Virgins of *Vesta* made Sacrifice to her: and therefore it shall be idle to prosecute this fable any farther (as *Albertus Magnus* doth) it being like the fable of *Alcida*, which the Poets saign was a Bird of the earth, and being invincible burned up all *Phrygia*, and at last was slain by *Minerva*.

Of the CAMEL.

Of the name. Although there be divers sorts of Camels, according to their several Countries; yet is the name not much varied, but taken in the general sense of the denomination of every particular. The Hebrews call it *Gamal*; the Chaldeans, *Gamela*; and *Gamele*: the Arabians, *Gemal*: *Gemel Alnegeb*: *Algiazar*. The Persians, *Sobtor*; the Saracens, *Shymel*; the Turks call a company of Camels traveling together, *Caravana*. The Italians and Spaniards call a Camel, *Camello*; the French, *Chameau*; the Germans, *Ramelthier*; all derived of the Latine, *Camelus*; and the Greek, *Camelos*. The Illyrians, call it *Vuelblud*: and the reason of the name *Camelos*, in Greek, is, because his burden or load is laid upon him kneeling or lying, derived (as it may seem) of *Camptemerosus*, the bending of his knees, and slowness of pace; wherefore a man of a slow pace, was among the Egyptians deciphered by a Camel. For that cause, there is Town in Syria called *Gangamela*; that is, the house of a Camel, erected by *Darius* the Son of *Hystaspis*, allowing a certain provision of food therein for wearied and tyred Camels. The Epithets given to this beast are not many among Authors, for he is termed by them rough, deformed, and thirsting; as *Juvenal*.

Artemidorus.
The Etymology of the word.
Horus.

Deformis poterunt immania membra Cameli.

And *Persius* in his fifth Satyre saith;

Tolle recens primus piper è sitiente Camelo.

The kinds of Camels. There are of them divers kinds, according to the Countries wherein they breed: as in *India*, in *Arabia*, and in *Bactria*: All those which are in *India*, are said by *Didymus* to be bred in the Mountains of the *Bactrians*, and have two bunches on their back, and one other on their breast, whereupon they lean: they have sometimes a Bore for their Sire, which feedeth with the flock of the Camels; for as Mules and Horses will couple together in copulation, so also will Bores and Camels: and that a Camel is so ingendered sometimes, the roughness of his hair like a Bores or Swines, and the strength of his body, are sufficient evidences; and these are worthily called *Bactrians*, because they were first of all conceived among them, having two bunches on their backs; whereas the *Arabian* hath but one. The colour of this Camel is for the most part brown, or puke; yet there are herds of white ones in *India*.

The generation of Bactrian Camels.

The parts and colour of these Camels.

The several parts of a Camel.
Pliny.

Silvaticus.

Aristotle.
Pliny.

The food of Camels.

Ptolemeus Lagi brought two strange things into *Egypt*, a black Camel; and a man which was the one half white, and the other half black in equal proportion; the which caused the Egyptians to wonder and marvel at the shape and proportion of the Camel, and to laugh at the man: whereupon it grew to a Proverb, a Camel among the Egyptians, for a matter fearful at the first, and ridiculous at the last.

The head and neck of this beast is different in proportion from all others; yet the *Ethiopians* have a beast called *Nabim*, which in his neck resembleth a Horse, and in his head a Camel. They have not teeth on both sides, although they want horns, (I mean both the *Arabian* and *Bactrian* Camel:) whereof *Aristotle* disputeth the reason, in the third Book of the parts of creatures, and fourteenth chapter. Their necks are long and nimble, whereby the whole body is much relieved; and in their neck toward the neather part of the throat, there is a place called *Ankar*, wherein a Camel doth by spear or sword, most easily receive his mortal or deadly wound.

His belly is variable, now great, now small like an Oxes; his gall is not distinguished within him like other beasts, but only carryed in great veins, and therefore some have thought he had none, and assigned that as a cause of his long life. Betwixt his thighs he hath two udders, which have four speans depending from them like a Cow. His genital part is confected, and standeth upon a sinew, insomuch as thereof may a string be made, for the bending of the strongest bow. The tail is like the tail of an Ass, hanging down to their knees, they have knees in every leg, having in their former leg three bones, and in the hinder four. They have an ancle like an Oxes, and very small buttocks, for the proportion of their great body: their foot is cloven, but so, that in the under part it hath but two fissures or clefts, opening the breadth of a finger, and in the upper part four fissures or clefts, opening a little, and having a little thing growing in them, like as is in the foot of a Goose: The foot it self is fleshy like a Bears, and therefore they are shod with leather when they travail, lest the gauling of their feet cause them to tire.

Avicenna affirmeth, that he had seen Camels with whole feet, like a Horses, but their feet (although fleshy) are so tyed together with little lungs that they never wear; and their manner of going or pace is like a Lyons, so walking as the left foot never out-goeth the right, whereas all other beasts change the setting forward of their feet, and lean upon their left feet while they remove their right; but these alter step after step, so as the left foot behinde, followeth the right before, and the hinder foot followeth the left before. Those Camels which are conceived by Bores are the strongest, and fall not so quickly into the myre as other, although his load be twice so heavy.

Camels love grass (called *Schaennanthi*) and especially Barley, which they eat up wonderful greedily untill all be in their stomach, and then will they chew thereupon all the night long: so that the greatness of their belly to lodge their meat in before concoction is better then the benefit



Silvaticus.
Paul Venet.
Philostrotus.
Cælius.
 Their drink
 must not be
 clear.

Their procrea-
 tion.)

Cælius.
Avicen.

The pace and
 agility of Cam-
 els.
Herodotus.

Of the labour
 and employ-
 ment of Cam-
 els.

Pliny.

Diodorus.

benefit of their upper teeth, because he can ruminate and chew it so often as he pleaseth. There is a certain herb, which hath a seed like a myrtle seed, that is poyson to worms, and this seed is food for Camels; wherewith they grow fat. It is therefore called Camel-thorn, and *Astergar* in the *Arabian* tongue. In the Province of *Aden*, both Sheep, Oxen, Horses, and Camels, eat a kinde of fish, and them better being dry and stale, then new and fresh, by reason the immoderate heat in that region burneth up all pature and fruits: neither is there any beast which is so easily fed as a Camel. They will not drink of clear or clean water, but of muddy and slimy, and therefore they stamp in it with their feet. They will endure thirst for three or four days together; but when they come to drink, they suck in above measure, recompensing their former thirst, and providing against that which is to come; and of all kindes the *Bactrians* are least troubled with thirst.

They stale from one side to another, otherwise then any other beasts do: this beast is very hot by nature, and therefore wanton and full of sport and wrath; braying most fearfully when they are angered. They engender like Elephants and Tygers; that is, the female lying or sitting on the ground, which the male imbraceth like other males; and continue in copulation a whole day together. When they are to ingender, they go unto the secretest places they can finde; herein excelling in modesty the ancient *Massagetes*, who were not ashamed to lie with their wives in the open field, and publick view of one another, where as brute beasts by instinct of nature, make the procreation of their kinde to be a most secret shameful honest action.

At the time therefore of their lust, they are most unruly and fierce, yeelding to none, no not to their own keepers: the best time of their copulation is in *September*, for in *Arabia*, they begin to ingender in the third year of their age, and so within ten or eleven moneths after she is delivered of young, being never above one at a time, for twins come not in her great belly; so she goeth a year before she conceive again, although her young be separated or weaned, before which time they do not commonly. Unto their former modesty for their copulation, we may adde another divine instinct and most true observation about the same; for the male will never cover his mother, or his sister; wherefore it is sincerely reported, that when a certain Camel-keeper (desirous to try this secret) having the male, son to a female, which he also kept, he so covered the female-mother-Camel in all parts of her body, except her secrets, that nothing could be seen of her, and so brought her lustful son to cover her; which according to his present rage he performed. As soon as he had done it, his master and owner pulled away the mask or disguise from the dam, in the presence of the son; whereby he instantly perceived his keepers fraud, in making him unnaturally to have copulation with his own mother. In revenge whereof he ran upon him, and taking him in his mouth, lift him up into the air, presently letting him fall with noise and cry underneath his murdering and man-quelling feet; where, with unappeaseable wrath and blood-desiring livor, he pressed and trod to pieces the incest marriage-causer, twixt him and his dearest mother; and yet not herewith satisfied, like some reasonable creature, deprived of heavenly grace, and carryed with deadly revenge against such uncleanness, being perswaded that the guilt of such an offence could never receive sufficient expiation by the death of the first deviser, except the beguiled party suffered also some smart of penalty; adjudged himself to death, and no longer worthy to live by natures benefit, which had so violated the womb that first conceived him; and therefore running to and fro, as it were to finde out a hang-man for himself, at last found a steepy rock, from whence he leaped down to end his life; and although he could not prevent his offence, yet he thought it best to cleanse away his mothers adultery with the sacrifice of that blood which was first conceived in that wombe, which he had defiled.

These Camels are kept in herds, and are as swift as Horses, according to the measure of their strength, not only because of their nimbleness, but also because their strides and reach doth gather in more ground: for which cause they are used by the *Indians* for race, when they go to fetch the gold which is said to be kept by the *Formice Lyons*, which are not much bigger then Foxes: yet many times do these Lyons overtake the Camels in course, and tear the riders in pieces. They have been also used for battel or war (by the *Arabians* in the *Persian* war:) but their fear is so great of an Horse, that (as *Xenophon* saith in the institution of *Cyrus*) when the Armies came to joyn, neither the Camel would approach to the Horse, or the Horse to the Camel; whereupon it is accounted a base and unprofitable thing for a man to nourish Camels for fight; yet the *Persians* for the fight of *Cyrus* in *Lydia*, ever nourished Camels and Horses together, to take away their fear one from another. Therefore they are used for carriage, which they will perform with great facility, being taught by their keepers to kneel and lye down to take up their burthens, which by reason of their height a man cannot lay on them; always provided, that he will never go beyond his ordinary lodging and baiting place, or endure more then his usual burthen; and it hath been seen that one of these *Bactrian* Camels, hath carryed above ten Minars of corn, and above that a bed with five men therein. They will travel in a day above forty ordinary miles; for as *Pliny* saith, that there was from *Thorma* to *Gaza*, sixty and two lodging places for Camels, which was in length one thousand five hundred thirty and seven miles.

They are also used for the plow in *Numidia*, and for this cause are yoked sometimes with Horses, but *Heliogabalus* like as the *Tartarians*, yoked them together not only for private spectacles and plays; but also for drawing of Waggon and Chariots. When they desire to have them free and strong for any labour in the field, or war, they use to geld both the male and the female, the manner whereof

whereof is in this sort. The male by taking away his stones, and the female by searing her privy parts within the brim and laps thereof with a hot iron, which being so taken away, they can never more join in copulation; and these are more patient in labour and thirst, and likewise better endure the extremity of sand in those parts, having this skill, that if the mists of rain or sand, do never so much obscure the way from the rider, yet doth she remember the same without all staggering.

The urine of this beast is excellent for the use of Fullers; of the hair called *Buber*, or Camels Wool, is cloth made for Apparel, (called *Camelotta*, or Camels hair,) and the hair of the *Caspian* Camels is so soft, that it may be therein compared with the softest *Milesian* Wool, whereof their Princes and Priests make their garments: and it is very probable, that the garments of Saint *John Baptist* was of this kinde. In the City of *Calacia*, (under the great *Cham*) and in the province of *Egrigaiia*, is cloth made of the hair of Camels, and white wool (called *Zambiloti*) shewing most gloriously; but the best of this kinde are in the land of *Gog* and *Magog*.

It is forbidden in holy Scripture to eat a Camel, for although it chew the cud, yet is not the hoof altogether cloven: and besides, the flesh thereof is hard of digestion, and the juyce thereof very naught, heating the body above measure; yet many times have men of base condition and mindes eaten thereof, as in *Arabia*, and in the Kingdom of *Fezzen*; and *Athenens* affirmeth, that the King of *Persia* was wont to have a whole Camel roasted for his own table at his royal feasting: and *Heliogabalus* likewise caused to be prepared for himself the heels of Camels, and the spurs of Cocks and Hens, pulled of alive, and whole Ostriches and Camels; saying, (though falsely) that God commanded the *Jews* to eat them. Camels milk is wholesome for meat, because it is thinnest of all other, and because thereof it breedeth fewer obstructions; and is good for softning of the belly. For the natural disposition of this beast: it is partly already related, whereby the singular use thereof may be collected: yet there are certain proverbs and stories thereof farther expressing their qualities.

It is disdainful, and a discontented creature: whereupon it is faigned of the Poets, that they besought *Iupiter* to give them Horns, with which Petition he was so offended, that he took from them their ears, and therefore in that, those are reproved, which are so far in love with other things they want, that they deserve to lose the things they have. Likewise the wantonness thereof appeareth by the proverb of a dancing Camel, when one taketh upon him more then his skill will serve to discharge: yet hath not this beast been free from ignominy; for when the Emperor *Iustinian* had found the Treason of *Arfaces* the *Armenian*, he caused him to ride through the City upon a Camel, to be shamed for his offence, although in former times it was a kinde of triumph and honor to be carryed upon a Camel, led through a City.

In the lake of *Asphaltites*, wherein all things sink that come in it, many Camels and Bulls swim through without danger. The *Arabians* sacrifice a Camel to the unknown God, because Camels go into strange Countries, and likewise sacrifice their Virgins before they be marryed, because of the chastity of this beast, and the *Sagarentes* with great observance, keep the combat of Camels, in the honour of *Minerva*.

These Beasts are hated of Horses and Lyons, for when *Xerxes* travailed over the river *Chidorus*, through *Peonia* and *Crestonia*; in the night time the Lyons descended into the camp, and touched no creatures therein, except the Camels, whom they destroyed for the most part.

A Camel will live in the soil wherein he is bred, fifty or an hundred years; and if he be translated into any other Nation, he falleth into madness or scabs, or the gowt, and then they live not above thirty years. There is a kinde of grafs that groweth by the high ways in the Countrey of *Babylon*, that killeth Camels when they taste thereof.

There are also medicinal properties in Camels, for by reason he is of a hot and dry temperament: if a man infected with poyson, be put into the warm belly of a Camel newly slain, it looseth the power of the poyson, and giveth strength to the natural parts of the body. The fat taken out of the bunch and perfumed, cureth the Hemorrhoides; and the blood of a Camel fryed, is precious against the bloodyflux, or any other looseness of the belly; the brain dryed and drunk with Vinegar, helpeth the Falling-evill; the gall drunk with Hony, helpeth the Quinzy: and if it be laid to the eye-brows and forehead, sod in three cups of the best Hony, it cureth the dimness of the eyes, and avoideth the flesh that groweth in them: and if the hairs of a Camels tail be wound together like a string, and tyed to the left arm, (*Pliny* affirmeth) they will deliver one from a quartan Ague.

The milk of Camels newly delivered of young, helpeth obstructions, and all shortness of breath; and is also good against the Dropsie and hardness of the milt. Also when one hath drunk poyson, this is a good Antidote, and amendeth the temper of the body. The fime of Camels dryed to dust with Oyl, will crispe and curl the hair, and stay bleeding at the nose; and the same hot, is good against the Gowt.

The urine is most profitable for running sores, there have been which have preserved it five years together, and used against hardness of the belly; washing also therewith sore heads: and it helpeth one to the sense of smelling, if it be held to the nose; likewise against the Dropsie, the Spleen, and the Ring-worm.

Pliny.

Of the use of their natural parts.

Ælianus.

Baytus.

The flesh of a Camel not to be eaten.

Diodorus.

Leo Afric.

Lampridius.

A history of their natural disposition.

Cælius.

Cælius.

Solinus.

Sacrifices of Idollary.

Gyraldus.

Ælianus.

Of the fear and hatred of Camels.

Herodotus.

Solinus.

Porphyrius.

The length of their life.

Pliny.

The medicines in the bodies of Camels.

Ponzettus.

Cardinalis.

Avicenna.

Marcellus.

Of the Camel DROMEDARY.

The description
of a Dromedary, and
the Etymology
of his name.

Didymus.
Isidorus.
A History.

Ælianus.

Diodorus.

A Camel is called of the *Grecians*, *Dromos*, by reason of the swiftness of his race; and also an *Arabian* Camel, which hath all things common with the former *Bactrian* Camel, except, first in the shape, for she hath but one bunch on the back, and many Nations, as the *Italians*, *French*, *Germans*, and *Spaniards*, use the word *Dromedary*, only without addition; the *Grecians* never name it without the addition of a Camel. Therefore this is a kinde of Camel of less stature, but much swifter; for which cause it is derived from running. It cheweth the cud like a Sheep, and the other Camel: the *French* King had sent him from the great *Turk* two of these, white coloured; and I my self have seen one of them, being fifteen cubits high, wanting some nine inches, and about six cubits in length, having the upper lip cloven in the middle like a Hare, and two broad nails in his feet, which in the upper part appeared cloven, but underneath they were whole and fleshy without division, and round in proportion like a pewter dish: It hath also a hard bunch on its breast, whereon it leaned, sitting down and rising: and also upon either knee one: these are said to live fifty years; but the *Bactrians* an hundred: they were used for drawing of Chariots, and great presents for Princes; and when they go to war, every one carryeth two Archers, which sit upon him, back to back, shooting forth their darts, one against the front of the enemy, and the other against the prosecutors and followers.

They are able to go an hundred miles in a day, bearing a burthen of fifteen hundred weight; yea sometimes two thousand, bending upon his knee to take up his load and rider, which received, he riseth up again with great patience, being obedient and ruleable; yet kicking when he is angry, which is very seldom: and therefore *Terence* did significantly describe a good servant by the name of *Dromo*, derived from *Dromas*, a runner: And for the conclusion of the History of these two sorts of Camels, I will here adde the relation and memorable observations of *Iohannes Leo Afer*, in his ninth Book of the description of *Africk*, in his own words following.

A relation of
Job. Leo Afer,
out of his
ninth Book, of
the description
of *Africk*.

"A Camel is a gentle and pleasant tame beast, whereof there are plenty in *Africa*, especially in the Deserts of *Lybia*, *Numidia*, and *Barbary*: by which *Africans* estimate their own wealth; for when they contend who is the richest Prince or Noble-man among them, they say he was worth, or hath so many thousand Camels, and not so many thousand Crowns. And he that hath Camels, liveth among them like a Gentleman; because he can at his pleasure travel into the Deserts, and fetch Merchandize from far, which the greatest Prince or Noble-man cannot without them, by reason of the drought of those places. And of these kinde of creatures, there are to be seen in all parts of the world, both in *Asia*, *Africk*, and *Europe*; for the *Tartarians*, *Cordians*, *Dalemans*, and *Turcomans* use them in *Asia*; and the *Turkish* Princes convey all their carriages upon them in *Europe*: Likewise do all the *Arabians* in *Africk*. But it must be observed, that the *African* Camels are much more worth than the *Asian*, for they can endure travel for forty and fifty days together, with very little or no meat, except sometimes in the evening, when they are unloaded, they go to the hedges, thorns, and other green places, and there eat any small thing they meet withall, as leaves and such like, wherewith they remain satisfied; whereas the *Asians* can perform no such journey, except they be kept fat and well fed: and it hath been proved by good experience, that one of the *Africans* hath travelled fifty days without meat, first wearing away the fat in their bunchy back, then about their skin and breast, and lastly, about their ribs, never giving over till it was not able to bear one hundred weight.

But the *Asians* must alway carry provender to sustain their beasts, never travelling but they have one Camel loaden with meat, for the other loaden with carriage, and so incur a double charge: and when the *Africans* go to any Marts or Fairs being to return empty and unloaded, they take no thought for their Camels food. Of these Camels there be three kinds, one of them called *Hugin*, (being broad and tall) and therefore apt to bear packs and burthens, but not before they be four year old; and after their ordinary load is one thousand weight of *Italian* measure, being taught by the jerking of a small rod, on the breast or knees, to lie down for their burthens, and alterward to rise up again. And the *Africans* do use to geld their Camels, reserving but one male for the covering of ten females.

Another kinde of their Camels they call *Bechetos*, such as have two bunches, one for burthen, and the other for a man to ride upon: and the third sort are called *Ragnabil*, which are of lower stature and leaner bodies than the residue, unfit for burden, and therefore are used for the saddle, by all the Noblemen of *Numidia*, *Arabia*, and *Lybia*: being able to run an hundred miles a day, and performing long journeys with little or no provender: for the King of *Tombuto* being to send to *Dara*, or *Selmessa*, (which is distant from his Court nine hundred miles) his messenger performeth it upon one of these *Ragnabil*, within the space of eight days.

In the beginning of the Spring they are most frolick and unruly, because then they incline to generation: at which time, they rage and fall upon many that come unto them, and especially those from whom they have received blows, remembring at that time, and requiting their former injuries, upon such as wronged them, whom if they can take in their mouth, they lift them up into the



the air, and then cast them down again under their feet, and tread upon them, in which distempered venereous fury, they remain forty days.

They can easily endure thirst, five, nine, or fifteen days in necessity; neither will their keeper give them drink at three days thirst, for fear to harm them. As these Camels are pleasant and profitable; so also they seem to participate with the nature of man: for they being weary'd, no spur or stroke can make them hasten to their journey end, therefore in *Æthiopia* and *Barbary*, they sing certain songs behinde the Beast, which so revive their decayed spirits, that they set forward so fast, forgetting their tyred limbs, to their journeys end, that their keepers can hardly follow.

I have also seen in *Alcair*, a Camel, that could dance at the sound of a Timbrel, being thereunto taught when he was young by this means; first, he was brought into a room like a stable, the pavement whereof was made hot by a fire underneath it, and without doors stood a Musician playing on his Timbrel; the Camel, not for love of the musick, but for the heat under his feet, lifted up first one foot, and then another, as they do which dance, and so the heat increasing, he likewise did lift up faster, whereunto he was accustomed for the space of ten months; at every time one hour and a half, during which time the Timbrel still sounded; so that at last, use framed Nature to such a strain, that hearing a Timbrel, he instantly remembered the fire that was wont to punish his feet, and so presently would leap to and fro like a dancer in publick spectacle, to the admiration of all beholders.

Of the two sorts of CAMELOPARDALS.



Of the name. **T**His Beast is called in *Hebrew*, *Zamer*; *Deut. 14*, which the *Arabians* translate *Saraphab*, and sometime *Gyrappa*, *Gyrassa*, and *Zirassa*; the *Chaldeans*, *Deba*, and *Ana*; the *Persians*, *Seraphab*; and the *Septuagint Grecians*, *Camelopardalis*, which word is also retained by the *Latins*, whereunto

Albertus

Albertus addeth *Orastus*, and *Orastus*. The *Ethiopians* call it *Nabin*, from whence cometh *Anabula*, and *Pausanias* translate it an *Indian Sheep*, so indeed *Anabula* may be Englished a wilde Sheep.

There were ten of these seen at *Rome*, in the daies of *Gordianus* the Emperor, and before that time, *Cæsar* being Dictator. And such an one was sent by the Sultan of *Babylon* to the Emperor *Frederick*, so that it is without question that there is such a beast, which is engendred of a Camel and a female *Libard*, or *Pamber*, as *Horace* saith;

Jul. Capital.
Pliny.

A history.
Isidorus.

Diversum confusa genus Panthera Camelo.

But the same which the *Latins* call *Panthera* the *Gracians* call *Pardalis*. The head thereof is like to a Camels, the neck to a Horses, the body to a Harts; and his cloven hoof is the same with a Camels: the colour of this Beast is for the most part red and white, mixed together, therefore very beautiful to behold, by reason of the variable and interchangeable skin, being full of spots: but yet they are not alway of one colour. He hath two little horns growing on his head of the colour of iron, his eyes rowling and frowning, his mouth but small like a Harts, his tongue is neer three foot long, and with that he will so speedily gather in his meat, that the eyes of a man will fail to behold his haft, and his neck diversly coloured, is fifteen foot long; which he holderh up higher then a Camels, and far above the proportion of his other parts. His forefeet are much longer then his hinder and therefore his back declineth towards his buttocks, which are very like an Asses. The pace of this beast differeth from all other in the world, for he doth not move his right and left foot one after another, but both together, and so likewise the other, whereby his whole body is removed at every step or strain.

The generati-
on and descri-
ption.

Leo Afric.
Oppianus.
Heliodorus.

Their manner
of going.

These beasts are plentiful in *Ethiopia*, *India*, and the *Georgian* region, which was once called *Media*. Likewise in the Province of *Abasia* in *India*, it is called *Surnosa*, and in *Abasia*, *Surnappa*, and the latter picture before set down, was truly taken by *Melchior Lucrigus* at *Constantinople*, in the year of salvation 1559. by the sight of one of these, sent to the great *Turke* for a present: which picture and description, was afterward sent into *Germany*, and was imprinted at *Norimberge*. It is a solitary beast, and keepeth altogether in woods, if it be not taken when it is young: they are very tractable and easie to be handled, so that a child may lead them with a small line or cord about their head, and when any come to see them, they willingly and of their own accord turn themselves round as it were of purpose to shew their soft hairs, and beautiful colour, being as it were proud to ravish the eyes of the beholders.

The Countries
breeding these
beasts.

Their natural
disposition and
mildness.

The skin is of great price and estimation among Merchants and Princes, and it is said that underneath his belly, the colourable spots are wrought in fashion of a fishers net, and the whole body so admirably intercoloured with variety, that it is in vain for the wit or art of man, once to go about to endeavour the emulous imitation thereof. The tail of the beast is like the tail of an Ass, and I cannot judge that it is either swift for pace or strong for labour, and therefore well teamed a wilde Sheep, because the flesh hereof is good for meat, and was allowed to the *Jews* by God himself for a clean beast.

The skin.

Of the *ALLOCAAMELUS*.



Scaliger

Saliger affirmeth, that in the land of the Giants, there is a beast which hath the head, neck, and ears of a Mule, but the body of a Camel; wherefore it is probable, that it is conceived by a Camel and a Mule: the picture whereof is before set down, as it was taken from the sight of the beast, and imprinted with a description at *Middleborough* in the year 1558. which was never before seen in *Germany*, nor yet spoken of by *Pliny*.

They said that it was an *Indian* Sheep, out of the region of *Peru*, and so was brought to *Antwerp*, six thousand miles distant from that nation. It was about two yards high, and five foot in length, the neck was as white as any Swan: the colour of his other parts was yellowish, and his feet like an *Ostrige*. Camels: and although it were a male, yet it did render his urine backward: it was afterward given to the Emperor by *Theodoric Neus*, a Citizen of the neather *Colen*. It was a most gentle and meek beast like the *Camelopardal*, not past four year old: wherefore I thought good to expresse it in this place, because of the similitude it hath with the manners of the former beast, although it want horns and differ in some other members.

Of another Beast called *CAMP E*.

Diodorus Siculus maketh relation, that when *Dionysius* with his Army travelled through the desert and dry places, annoyed with divers wilde beasts, he came to *Zambirra* a City of *Lybia*, where he slew a beast bred in those parts called *Campe*, which had before that time destroyed many men, which action did purchase him among the inhabitantes a never dying fame, and that therefore there might remain a continual remembrance to all posterity of that fact, he raised up there a monument of the slain beast to stand for evermore.

Of the *CAT*.

Of the name.

A Cat is a familiar and well known beast, called of the *Hebrews*, *Catull*, and *Schanar*, and *Schunara*; of the *Grecians*, *Aeluros*, and *Kates*, and *Katis*; of the *Saracens*, *Kati*; the *Italians*, *Gatta*, and *Gotto*; the *Spaniards*, *Gata*, and *Gato*; the *French*, *Chat*; the *Germans*, *Katz*; the *Illyrians*, *Kozka*, and *Furioz*, (which is used for a Cat by *Albertus Magnus*) and I conjecture, to be either the *Persian* or the *Arabian* word. The *Latins* call it *Felis*, and sometimes *Murilegus* and *Musio*, because it catcheth Mice, but most commonly *Catus*, which is derived of *Cautus*, signifying wary. *Ovid* saith, that when the Giants warred with the Gods, the Gods put upon them the shapes of Beasts, and the sister of *Apollo* lay for a spy in the likeness of a Cat, for a Cat is a watchful and wary beast seldom overtaken, and most attendant to her sport and prey: according to that observation of *Mantuan*;

The nature and etymology of a Cat.

*Non secus ac muricatus, ille invadere pernam,
Nititur, hic rimas oculis observat acutis.*

Their use among the Egyptians.

And for this cause did the *Egyptians* place them for hallowed beasts, and kept them in their Temples, although they alleadged the use of their skins for the cover of Shields, which was but an unreasonable shift, for the softness of a Cats skin is not fit to defend or bear a blow: It is known also, that it was capital among them, to kill an *Ibis*, an *Aspe*, a *Crocodile*, a *Dog*, or a *Cat*; in so much as, that in the dayes of King *Ptolemie*, when a peace was lately made betwixt the *Romans* and the *Egyptians*; and the *Roman* Ambassadors remaining still in *Egypt*, it fortuned that a *Roman* unawares killed a Cat, which being by the multitude of the *Egyptians* espied, they presently fell upon the Ambassadors house, to rase down the same, except the offender might be delivered unto them to suffer death: so that neither the honour of the *Roman* name, nor the necessity of peace, could have restrained them from that fury, had not the King himself and his greatest Lords come in person, not so much to deliver the *Roman* Cat-murderer, as to safeguard him from the peoples violence. And not only the *Egyptians* were fools in this kind, but the *Arabians* also, who worshipped a Cat for a God; and when the Cat dyed, they mourned as much for her, as for the father of the family, shaving the hair from their eye-lids, and carrying the beast to the Temple, where the Priests salted it and gave it a holy funeral in *Bubassum*, (which was a burying place for Cats neer the Altar) wherein may appear to all men, in what miserable blindness the wisest men of the world, (for-faking, or deprived of the true knowledge of God) are more then captivated, so that their wretched estate cannot better be expressed then by the words of *St. Paul*, *When they thought to be wise, they became fools*.

A History.

Calius.

Of the taming of Cats and their countries.

Once Cats were all wild, but afterward they retired to houses, wherefore there are plenty of them in all Countries: *Martial* in an Epigram, celebrated a *Pannonian* Cat with this distichon;

*Iannonicas nobis nunquam dedit Umbra Catta,
Mavult hac domine mittere dona pudens.*

The

The Spanish black Cats are of most price among the Germans, because they are nimblest, and have the softest hair fit for garment.

The best Cats.

A Cat is in all parts like a Lioness, except in her sharp ears, wherefore the Poets feign, that when Venus had turned a Cat into a beautiful woman, (calling her *Aelius*) who forgetting her good turn, contended with the Goddesse for beauty; in indignation whereof, she returned her to her first nature, only making her outward shape to resemble a Lion; which is not altogether idle, but may admonish the wisest, that fair and foul, men and beasts, hold nothing by their own worth and benefit, but by the virtue of their Creator: Wherefore if at any time they rise against their maker, let them think to lose their honour and dignity in their best part, and to return to baseness and inglorious contempt; out of which they were first taken, and howsoever their outward shape and condition please them, yet at the best are but beasts that perish, for the Lions suffer hunger.



Cats are of divers colours, but for the most part griseled, like to congealed ice, which cometh from the condition of her meat: her head is like unto the head of a Lion, except in her sharp ears: her flesh is soft and smooth: her eyes glister above measure, especially when a man cometh to see them on the suddain, and in the night they can hardly be endured, for their flaming aspect. Wherefore Democritus describing the Persian *Smargade*, saith that it is not transparent, but filleth the eye with pleasant brightness, such as is in the eyes of Panthers and Cats, for they cast forth beams in the shadow and darkness, but in sunshine they have no such clearness, and thereof *Alexander Aphrodisi* giveth this reason, both for the sight of Cats and Bats, that they have by nature a most sharpe spirit of seeing.

Sipontius.
Of the several parts.

Alberus compareth their eye-sight to Carbuncles in dark places, because in the night they can see perfectly to kill Rats, and Mice: the root of the herb *Valerian* (commonly called *Phu*) is very like to the eye of a Cat, and wheresoever it groweth, if Cats come thereunto, they instantly dig it up, for the love thereof, as I my self have seen in mine own Garden, and not once only, but often, even then when as I had caused it to be hedged or compassed round about with thornes, for it smelleth marvellous like to a Cat. The Egyptians have observed in the eyes of a Cat, the encrease of the Moon-light; for with the Moon they skin more fully at the full, and more dimly in the change and wane, and the male Cat doth also vary his eyes with the Sun, for when the Sun riseth, the apple of his eye is long; toward noon it is round, and at the evening it cannot be seen at all, but the whole eye sheweth alike.

Gillius.

The tongue of a Cat is very attractive and forcible, like a file, attenuating by licking the flesh of a man, for which cause, when she is come neer to the blood, so that her own spittle be mingled therewith, she falleth mad. Her teeth are like a saw, and if the long hairs growing about her mouth (which some call *Granons*) be cut away, she loseth her courage. Her nails sheathed like

Pliny.

the

the nails of a Lion, striking with her forefeet, both Dogs and other things, as a man doth with his hand.

The game and food of Cats.

This beast is wonderful nimble, setting upon her prey like a Lion, by leaping, and therefore she hunteth both Rats, all kind of Mice, and Birds, eating not only them, but also fish, where-withall she is best pleased. Having taken a Mouse, she first playeth with it, and then devoureth it, but her watchful eye is most strange, to see with what pace and soft steps, she taketh birds and flies; and her nature is to hide her own dung or excrement, for she knoweth that the favour and presence thereof, will drive away her sport, the little Mouse being able by that stool, to smell the presence of her mortal foe.

Pliny.
A secret.

To keep Cats from hunting of Hens, they use to tie a little wilde Rew under their wings, and so likewise from Dove-coates, if they set it in the windowes, they dare not approach unto it for some secret in nature. Some have said that Cats will fight with Serpents, and Toads, and kill them, and perceiving that she is hurt by them; she presently drinketh water and is cured: but I cannot consent unto this opinion: it being true of the Weasell as shall be afterward declared. Pontzettus sheweth by experience that Cats and Serpents love one another, for there was (saith he) in a certain Monastery, a Cat nourished by the Monks, and suddenly the most parts of the Monks which used to play with the Cat fell sick: whereof the Physitians could find no cause, but some secret poison, and all of them were assured that they never tasted any: at the last a poor labouring man came unto them, affirming that he saw the Abbey-cat playing with a Serpent, which the Physitians understanding, presently conceived that the Serpent had emptied some of her poison upon the Cat, which brought the same to the Monks, and they by stroking and handling the Cat, were infected therewith; and whereas there remained one difficulty, namely, how it came to passe, the Cat her self was not poisoned thereby, it was resolved, that for as much as the Serpents poison came from him but in play and sport, and not in malice and wrath, that therefore the venom thereof being lost in play, neither harmed the Cat at all, nor much endangered the Monks: and the very like is observed of Mice that will play with Serpents.

Of their love and hatred.

Ælianus.

Cats will also hunt Apes, and follow them to the woods, for in Egypt certain Cats set upon an Ape, who presently took himself to his heels, and climed into a tree, after whom the Cats followed with the same celerity & agility: (for they can fasten their claws to the barke and run up very speedily:) the Ape seeing himself overmatched with number of his adversaries, leaped from branch to branch, and at last took hold of the top of a bough, whereupon he did hang so ingeniously, that the Cats durst not approach unto him for fear of falling, and so departed.

The love of home.

The nature of this beast is, to love the place of her breeding, neither will she tarry in any strange place, although carryed far, being never willing to forsake the house, for the love of any man, and most contrary to the nature of a Dog, who will travaile abroad with his master; and although their masters forsake their houses, yet will not these beasts bear them company, and being carryed forth in close baskets or sacks, they will yet return again or lose themselves. A Cat is much delighted to play with her image in a glasse, and if at any time she behold it in water, presently she leapeth down into the water which naturally she doth abhor, but if she be not quickly pulled forth and dried she dyeth thereof, because she is impatient of all wet. Those which will keep their Cats within doors, and from hunting birds abroad, must cut off their ears, for they cannot endure to have drops of rain distill into them, and therefore keep themselves in harbour. Nothing is more contrary to the nature of a Cat, then is wet and water, and for this cause came the proverb that they love not to wet their feet. It is a neat and cleanly creature, oftentimes licking her own body to keep it neat and fair, having naturally a flexible back for this purpose, and washing her face with her forefeet: but some observe, that if she put her feet beyond the crown of her head, that it is a presage of rain, and if the back of a Cat be thin the beast is of no courage or vawew. They love fire and warm places, whereby it often falleth out that they often burn their Coats. They desire to lie soft, and in the time of their lust (commonly called cat-wralling) they are wilde and fierce, especially the males, who at that time (except they be gelded) will not keep the house: at which time they have a peculiar direful voice. The manner of their copulation is this, the female lyeth down, and the male standeth, and their females are above measure desirous of procreation, for which cause they provoke the male, and if he yeeld not to their lust, they beat and claw him, but it is only for love of young, and not for lust: the male is most libidinous, and therefore seeing the female will never more engender with him during the time her young ones suck, he killeth and eateth them if he meet with them, (to provoke the female to copulation with him again, for when she is deprived of her young, she seeketh out the male of her own accord) for which the female most warily keepeth them from his sight. During the time of copulation, the female continually cryeth, whereof the Writers give a double cause; one, because she is pinched with the talons or claws of the male in the time of his lustful rage; and the other, because his seed is so fiery hot, that it almost burneth the females place of conception. When they have littered, or as we commonly say kittened, they rage against Dogs, and will suffer none to come neer their young ones.

Albertus.
A way to make Cats keep home.

A conjectural secret.

Their copulation.

Aristotle.

Ælianus.

Choise of young Cats.

The best to keep are such as are littered in March; they go with young fifty daies, and the females live not above six or seven years, the males live longer, especially if they be gelt or libbed: the reason of their short life is their ravening of meat which corrupteth within them.

They

They cannot abide the favour of ointments, but fall mad thereby; they are sometimes infected with the falling evill, but are cured with *Gobium*. It is needles to spend any time about her loving nature to man, how she flattereth by rubbing her skin against ones Legs, how she whurleth with her voice, having as many tunes as turnes, for she hath one voice to beg and to complain, another to stifie her delight and pleasure, another among her own kind by flattering, by hissing, by puffing, by sitting, in so much as some have thought that they have a peculiar intelligible language among themselves. Therefore how she beggeth, playeth, leapeth, looketh, catcheth, tosseth with her foot, riseth up to strings held over her head, sometimes creeping, sometimes lying on the back playing with one foot, sometime on the belly, snatching now with mouth, and anon with foot, apprehending greedily anything save the hand of a man, with divers such gestical actions, it is needles to stand upon; in so much as *Caelius* was wont to say, that being free from his Studies and more urgent weighty affaires, he was not ashamed to play and sport himself with his Cat, and verily it may well be called an idle mans pastime. As this beast hath been familiarly nourished of many, so have they payed dear for their love, being requited with the losse of their health, and sometime of their life for their friendship: and worthily, because they which love any beast in a high measure, have so much the lesse charity unto man.

Gillius.
Caelius.
Alu. Mundel.
Their diseases.

Therefore it must be considered what harmes and perils come unto men by this beast. It is most certain, that the breath and favour of Cats consume the radical humour and destroy the lungs, and therefore they which keep their Cats with them in their beds have the air corrupted, and fall into severall Hecticks and Consumptions. There was a certain company of Munks much given to nourish and play with Cats, whereby they were so infected, that within a short space none of them were able either to say, read, pray, or sing, in all the Monastery; and therefore also they are dangerous in the time of Pestilence, for they are not only apt to bring home venemous infection, but to poison a man with very looking upon him; wherefore there is in some men a natural dislike and abhorring of Cats, their natures being so composed, that not only when they see them, but being neer them and unseen, and hid of purpose, they fall into passions, frettings, sweating, pulling off their hats, and trembling fearfully, as I have known many in *Germany*; the reason whereof is, because the constellation which threatneth their bodies which is peculiar to every man, worketh by the presence and offence of these creatures: and therefore they have cryed out to take away the Cats.

The hurt that cometh by the familiarity of a Cat.
Alex. Benidi.
Abynzoar.

The like may be said of the flesh of Cats, which can seldom be free from poison, by reason of their daily food, eating Rats and Mice, Wrens and other birds which feed on poison, and above all the brain of a Cat is most venomous, for it being above measure dry, stoppeth the animal spirits, that they cannot passe into the ventricle, by reason whereof memory faileth, and the infected person falleth into a Phrenzie. The cure whereof may be this, take of the water of sweet Marjoram with *Terra lemnia* the weight of a groat mingled together, and drink it twice in a month, putting good store of spices into all your meat to recreate the spirits withall, let him drink pure Wine, wherein put the seed of *Diamoschu*. But a Cat doth as much harm with her venomous teeth, therefore to cure her biting, they prescribe a good diet, sometime taking Hony, Turpentine, and Oil of Roses melt together and laid to the wound with *Centory*: sometime they wash the wound with the urine of a man, and lay to it the brains of some other beast and pure Wine mingled both together.

Of a Cats flesh.

Ponzettus.
Alexander.

The hair also of a Cat being eaten unawares, stoppeth the Artery and causeth Suffocation: and I have heard that when a childe hath gotten the hair of a Cat into his mouth, it hath so cloven and stuck to the place that it could not be gotten off again, and hath in that place bred either the wens or the Kings evill. To conclude this point, it appeareth that this is a dangerous beast, and that therefore as for necessity we are constrained to nourish them for the suppressing of small vermine: so with a wary and discreet eye we must avoid their harms, making more account of their use then of their persons.

Mathaeolus.

In *Spain* and *Gallia Narbon*, they eat Cats, but first of all take away their head and tail, and hang the prepared flesh a night or two in the open cold air, to exhale the favour and poison of it, finding the flesh thereof to be almost as sweet as a Cony. It must needs be an unclean and impure beast that liveth only upon vermin and by ravening, for it is commonly said of a man when he neefeth, that he hath eaten with Cats: likewise the familiars of Witches do most ordinarily appear in the shape of Cats, which is an argument that this beast is dangerous to soul and body. It is said that if bread be made wherein the dung of Cats is mixed, it will drive away Rats and Mice. But we conclude the story of this beast with the medicinal observations, and tarry no longer in the breath of such a creature compounded of good and evill. It is reported that the flesh of Cats salted and sweetned hath power in it to draw wens from the body, and being warmed to cure the Hemorrhoids and pains in the reins and back, according to the Verse of *Ursinus*.

Perottus.

Et lumbus lumbis prestat adesus opem.

Aylsius prescribeth a fat Cat sod for the Gowt, first taking the fat, and anointing therewith the sick part, and then wetting Wool or Tow in the same, and binding it to the offended place.

Galenus.
The medicinal virtues of a Cat.

For the pain and blindness in the eye, by reason of any skins, webs, or nails, this is an approved medicine; Take the head of a black Cat, which hath not a spot of another colour in it, and

and burn it to powder in an earthen pot leaded or glazed within, then take this powder and blow with a quill blow it thrice a day into thy eye, and if in the night time any heat do thereby annoy thee, take two leaves of an Oke wet in cold water and bind them to the eye, and so shall all pain flie away, and blindness depart although it hath oppressed thee a whole year: and this medicine is approved by many Physicians both elder and later.

Galen.

Sextus.

Aetius.

Rasis.

Albertus.

Pliny.

The liver of a Cat dried and beat to powder is good against the stone: the dung of a female Cat with the claw of an Owl hanged about the neck of a man that hath had seven fits of a Quartaine Ague, cureth the same: a neefing powder made of the gall of a black Cat, and the weight of a groat thereof taken and mingled with four crowns weight of Zambach, helpeth the convulsion and writhings of the mouth: and if the gall of a Cat with the black dung of the same Cat, be burned in perfume under a woman travelling with a dead childe, it will cause it presently to come forth: and Pliny saith that if a pin, or thorn, or fish bone, stick in ones mouth, let him rub the outside against it with a little Cats dung, and it will easily come forth. Given to a woman suffering the flux, with a little Rozen and Oil of Roses, it stayeth the humour; and for a Web in the eye of an horse, evening and morning blow in the powder of Cats dung, and it shall be cured.

Of the *Wilde CAT*.

ALl Cats at the beginning were wilde, and therefore some do interpret *Im*, Isa. 34. for wilde Cats; and the Germans call it *Bonumruter*, that is, a tree-rider, because she hunteth Birds and fowles from tree to tree. The Spaniard calleth it *Gato-montes*, and in some places of France it is called *Chatcarets*. There are great store of them in *Helvetia*, especially in the Woods, and sometime near the waters, also being in colour like tame Cats but blacker, such as in England is called a *Poolcat*. I saw one of them, which was taken in September, and observed, that it was in length from the forehead to the top of the tail, four full spans, and a black line or strake all along the back, and likewise some black upon the legs; betwixt the breast and the neck there was a large white spot, and the colour of her other parts was dusky, red, and yellow, especially about the buttocks, the heels of her feet were black, her tail longer then an ordinary house Cats, having two or three black circles about it, but toward the top all black.

Olaus Mag.

They abound in *Scandinavia*, where the Linxes devour them; otherwise they are hunted with Dogs, or shot with Guns, and many times the Countreymen seeing one in a tree, doth compass it about with multitude, and when she leapeth down kill her with their clubs, according to the verse of *Neversianus*:

Felemque minacem

Arboris in trunco, longis perfigere telis.

In the province of *Malabar*, these Cats live upon trees, because they are not swift to run, but leap with such agility, that some have thought they did flie: and verily they do flie, for they have a certain skin, which when they lie in quiet, cleaveth or shrinketh up to their bellies, but being stirred, the same spreadeth from their forefeet to their hinder, like the wing of a Bat; by vertue whereof, they stay up themselves in the air, passing from tree to tree like a fowl; as also doth the *Pontique* Mouse, as shall be declared afterward.

The skins of wilde Cats are used for garments, for there is no skin warmer, as by experience appeareth in *Scythia* and *Moscovia*, where their women are clothed with the fur of Cats, but especially for buskins and sleeves with their hair turned inward, not only against cold but for medicine, against contracted sinews, or the Gout. The fat of this beast is reserved by some for heating, softening, and displaying tumours in the flesh: and whatsoever *Rasis* or any other said of the house Cat before in the medicinal parts, that also appertaineth to this, except as in all other, so it falleth forth herein, that the virtues of the wilde kind is more effectual then the tame.

There are some among the *Rhatians* and *Germans*, which eat the flesh hereof, accounting it delicate, having first cut off the head and tail; they cannot abide the fume of Rew, or of bitter Almonds; there is nothing memorable in the nature of this beast that I can learn, except that which is related by *Aetius*, that when men are bitten by Crocodils, this beast by a natural instinct hating a Crocodil, will come about the wounded persons, otherwise fearing the presence of man.

We may hereunto add the beast which is bred in *America*, called *Heyratt*, spoken of by *Thevetus*: which name signifieth a beast of Honey, and the reason is, because it desireth Honey above measure, for it will climb the trees, and coming to the caves of Bees, it will with such dexterity take out the Honey with their nails, that it neither hurteth the Bees, or receiveth harm by them. It is about the bigness of a Cat, and of a Cheffe-nut colour.

Of the COLUS.



There is among the *Scythians* and *Sarmatians* a four-footed wilde beast called *Colus*, and some *Sulac* The name.
 in *Latin*; of the *Polonians*, *Saibac*, of the *Moscovites*, *Seigak*; of the *Tartarians*, *Akkuk*, and *Snak*;
 of the *Turkes*, *Acomi*; being in quantity and stature betwixt a Ram and a Hart, and duskie white
 coloured, but the young ones yellow: of a singular swiftnes and celerity in courie. Her manner
 is to drink by the holes in her Nostrils, whereby she snuffeth up abundance of Water, and carryeth
 it in her head, so that she will live in dry pastures remote from all moisture a great season, quenching
 her thirst by that Cistern in her head.

Of the colour,
 A miraculous
 thing in her
 drink.
Strabo lib. 7.

They are most plentiful to be found in *Tartaria*, in *Pontus*, where are so many plains, that a
 man can see nothing but heaven and earth; likewise they are found in *Moscovia*, in *Podocia*, and a-
 bout the River *Neprus*, and *Borysthenes*: they can never be taken but by wearisomeness: wherefore
 if men follow them with Pipes and Timbrels, playing upon them, they so weary themselves with
 leaping and running to and fro, being compassed in by multitudes of men, that they fall down for
 weakness, and so are taken. They live in flocks together, sometimes five hundred; and after *Easter*
 in the Spring, two hundred in a troope: having a Snout like a Hogs, they endure much hunger,
 but no cold.

Of the Coun-
 tries of their
 breed.
 Of their hun-
 ting and ta-
 king.

In *March* they dig up with their Horns a certain root, whereof they eat, and presently their lust
 for generation encreaseth unto rage; in so much that for satisfying thereof they continue in that
 act both male and female, untill they lose all strength of body, lying half dead on the earth by the
 space of 24 hours, not able to go or stand: during which time they are often taken alive, but when
 they come again to themselves, they rather die then endure to be tamed.

Of their pro-
 creation.

The flesh of them is very sweet and wholesome, they conceive and bring forth for the most part
 twins, or two at a time; their greatest enemy is a Wolf (for in the Winter and snow they hunt and
 kill them.) Their horn are about four palms in length, growing upright or bending very little and
 very sharp, wherewithal they can pierce the belly of a Horse or other beast that standeth over
 them: at the root they are about six inches compass, and so growing lesse and lesse to the top;
 one of them weigheth about nine ounces; the blade toward the point is transparent, being held
 against the light or sun, because it is white and thin, but the neather part is duskie and thicker, and
 therefore it is not penetrable by the eye of man. There are about 14 circles like rings compas-
 sing about the horn, one above another, but the uppermost is not perfect. This horn is of great
 price, being a present for any Noble man, for in *Turkey* they are sold for six *Cracovian* shillings;
 yet I know no other use of them, but either to make hafts for knives, or else horns for Spectacles.

This beast liveth altogether in the plains except in snow, and then he runneth into the Woods;
 where he may be taken more easily, and killed with the stroke of a Staffe. When the *Tartarians* know
 in what plains they lie, their King cometh and with a multitude of men compasseth them and wea-
 ryeth them by musick as afore said. All this was related to me by one that had killed of them above
 two hundred with his own hand (saith that right honorable and most learned Gentleman *Johannes*
Bonarus, Baoron of *Balszei* a *Polonian*.)

Mat. Michon

Of the CONY.



Strabo. Among the divers kinds of Hares, Conies have the third rank, being therefore called in Latin, *Lepusculi*, (as it were little Hares) and sometime *Leberide*, as it were a Leveret or young Hare, as well as *Cuniculus*: whereof the reason is, that it maketh holes in the earth, for *Cuniculus* was a Latin word for a hole or cave in the earth, before it was taken for a Cony. *Scaphan* in the singular, and *Schephanim*, in the plural, *Levit.* 11. and *Psal.* 104. is taken in Hebrew for a Cony or Conies, and not for a Hedge hog, as the *Septuagint* translate, or for a *Porcus* spine, although they live also in Caves and secret places of the earth; and therefore *Choerogryllus*, or *Choerogryllinus*, cannot signifie a Cony: as the *Septuagint* translate *Scaphan*, but a Hedge-hog, as the word derived from the face of a Hog doth most evidently declare, which can by no means agree with a Cony. In the 14. of *Deut.* the word *Scaphan* is joyned with a Hare, because it is a beast neer of kind unto it, for it is evident, that both of them chew the cud, howsoever a Cony hath not a simple cloven foot into two parts. A Cony also is called *Adapes*, because of the roughness of his feet; The *Chalde* calleth it *Thapsa*; the *Arabians*, *Vebar*; the *Persians*, *Beganzerah*; and the *Arabians*, following sometime the Greek, call it *Alraxeb*, that is, Hares. The *Grecians* call it vulgarly *Skele* and *Dasipos*, *Cuniculos*, *Scunax*, and *Lagis*, *Georychios* a Hare digging, living in the earth. The *Italians* call it *Conigli*; the *French*, *Counin*; the *Spaniards*, *Concio*; the *Germans*, *Kinnigle*, or *Kunel*, and sometime *Kunlein*; the *Illyrians*, *Kralik* or *Kroluk*.

Platin.**Hermolaw.****Polybius.****Grapaldus.**

The etymology of the name.

Their Country.

Munsterus.**Athenæus.****Pliny.****Varro.**

There are few Countries wherein Conies do not breed, but the most plenty of all is in *England*, they are also in an Island where are but few men neer unto *Dicæarcha*, or as it is now called *Puteoli* in *Italie*. Likewise in all *Spain*, especially in those parts neer unto *Lombardy*, whereupon *Appian* in *Varro* did write to one of his acquaintance which had tarried long in *Spain*, that he thought he was there following or hunting of Conies, because as their multitude is great, so it would aske long time to take them. Among the *Baleares* are also great store of Conies, and once they so abounded there, that the people were constrained to entreat at the hands of *Augustus*, a military company of Pioners to destroy them; and when *Camillus* was besieging the City *Vei* in *Italy*, he learned of the Conies, which had undermined a whole City in *Spain*, likewise to take and overthrow that City by their example of undermining, whereupon *Martial* said:

Monstravit taciens hostibus ille vias.

Vegetius saith, that the proverb *Cuniculos agere* took his beginning, when one by secret underminings, and not by open violence overthroweth a Town or Nation. There are also, saith *Albertus*,

Albertus, great store of wilde Conies in *Bobemia*, so like a Hare as one beast may be like another, save only they seem stronger, and are shorter and lesser, which thing caused *Baptista Fiera* to write thus:

*Credideram leporem, sic forma similima fallit,
Ambo supersatant, dente vel aure pares.*

Pet. Martyr likewise affirmeth in his *Ocean Decades*, that in *Curiana* a region of the new found world, are Conies for colour, quantity, and hair like a Hares, which the inhabitants call *Vitias*, and there are two little Islands called *Cunicularia*, which seem to be denominated of Conies, standing betwixt *Corfica* and *Sardinia*. For their several parts, they are most like unto a Hare, except in their head and tail which is shorter, and their colour which is alway brighter, and lesse brown and sandy: or else sometimes Conies are white, black, griseled, tauny, blewish, yellow spotted, ash-coloured, and such like. And *Alysius* saith, that in some places, they are also green, and their skins are of great use through the world, especially in all the North and East for garments, facings, and linings. The gray and yellowish are the worst, but the white and black are more pretious, especially of the *English*, if the black be aspersed wth some white or silver hairs: and in their use the Bucks are most durable, yet heavier and harsher. The belly is most soft, gentle, and easie, and therefore more set by, although of lesse continuance. Their flesh is very white and sweet, especially of the young ones, being about fourteen or twenty dayes old, and some have devised a cruel delicate meat, which is to cut the young ones out of the dams belly, and so to dresse and eat them, but I trust there is no man among Christians so inhumanely gluttonous, as once to devise or approve the sweetness of so foul a dish: but the tame ones are not so good, for in *Spain* they will not eat of a tame Cony, because every creature doth partake in tast of the air wherein he liveth, and therefore tame Conies which are kept in a close and unsweet air, by reason of their own excrements, cannot tast so well, or be so wholesome as those which run wilde in the mountains and fields, free from all infection of evill air.

They love above all places the rocks, and make Dens in the earth, and whereas it is said, *Psal. 104.* that the stony rocks are for the Cony, it is not to be understood as if the feet of the Cony could pierce into the rock, as into the earth, and that she diggeth her hole therein as in looser ground; but that finding among the rocks holes already framed to her hand, or else some light earth mingled therewith, she more willingly entreteth therinto, as being more free from rain and floods then in lower and softer ground; for this cause they love also the hills and lower grounds and woods where are no rocks, as in *England* which is not a rocky Countrey, but wheresoever she is forced to live, there she diggeth her holes, wherein for the day time she abideth, but morning and evening cometh out from thence, and sitteth at the mouth thereof.

In their copulation they engender like Elephants, Tygges, and Linxes, that is, the male leapeth on the back of the female, their privie parts being so framed to meet one another behind, because the females do render their urine backward: their secrets and the seed of the male are very smal. They begin to breed in some Countries, being but six moneths old, but in *England* at a year old, and so continue bearing every moneth, at the least seven times in one year, if they litter in *March*, but in the Winter they do not engender at all; and therefore the Authors say of these and Hares, that they abound in procreation, by reason whereof, a little store will serve to encrease a great borough. Their young being littered are blind and fee not till they be nine dayes old, and their dam hath no suck for them, till she hath been six or seven hours with the male, at the least for six hours after she cannot suckle them, greatly desiring to go to the Buck, and if she be not permitted presently, she is so far displeased that she will not be so inclined again for 14 daies after.

I have been also credibly informed by one that kept tame Conies, that he had Does which littered three at a time, and within fourteen daies after, they littered four more. Their ordinary number in one litter is five, and sometimes nine, but never above: and I have seen that when a Doe hath had nine in her belly, two or three of them have perished and been oppressed in the womb by suffocation. The males will kill the young ones, if they come at them like as the Bore cats, and therefore the female doth also avoid it carefully, covering the nest or litter with gravell or earth, that so they may not be discovered: there are also some of their females very unnatural, not caring for their yong ones, but suffer them to perish, both because they never provide a warm litter or nest for them, as also because they forsake them being littered, or else devour them. For the remedy of this evill, he that loveth to keep them for his profit, must take them before they be delivered, and pull off the hair or flesh underneath their belly, and so put it upon their nest, that when the young one cometh forth, it may not perish for cold, and so the dam will be taught by experience of pain to do the like her self: Thus far *Thomas Gypson an English Physiciana*. For Conies you may give them Vine-leaves, Fruits, Herbs, Grasse, Bran, Oatmeal, Mallows, the parings of Apples; likewise Cabbages, Apples themselves, and Lettuce; and I my self gave to a Cony blew Wolfe-bane, which she did presently eat without hurt, but Gallingale and blind Nettle they will not eat. In the Winter they will eat Hay, Oats and Chaffe, being given to them thrice a day: when they eat Greenes they must not drink at all, for if they do, it is hazzard but they will incur the Dropsie: and at other times they must for the same cause drink but little, and that little must be alway fresh. It is also dangerous to handle their young ones, in the absence of the dam,

Their parts
and members.

Agricola.
Alanus.
The use of
their skins.
Crescennensis.

The use of
their flesh.
Pliny.

The places of
their abode.

Their copula-
tion and pro-
creation.
Tho. Gypson.

Tho. Gypson.

The cruelty of
the males and
of some fe-
males.

Their meat
and food.

The danger in
their meat and
drink.

Albertus.

The medicin
in a Cony.

for her jealousie will easily perceive it, which causeth her so to disdain them, that either she biteth, forsaketh, or killeth them. Foxes will of their own accord hunt both Hares and Conies, to kill and eat them.

Touching their medicinall properties, it is to be observed that the brain of Conies hath been eaten for a good Antidote against poison: so also the Hart which is hard to be digested, hath the same operation that is in treacle. There is also an approved medicine for the Squinancy or Quinsie: take a live Cony, and burn her in an earthen pot to powder, then take a spoonful of that powder in a draught of wine, and drink the most part thereof, and rub your throat with the residue, and it shall cure with speed and ease, as *Marcellus* saith. The fat is good against the stopping of the bladder and difficulty of urine being anointed at a fire upon the hairy place of the secrets, as *Alex. Benedictus* affirms. Other things I omit concerning this beast, because as it is vulgar, the benefits thereof are commonly known.

Of the Indian little PIG-CONY.



I Received the picture of this beast from a certain Noble-man my loving friend in *Paris*, whose parts it is not needfull to describe, seeing the image it self is perspicuous and easie to be observed. The quantity of this beast doth not exceed the quantity of a vulgar Cony, but rather the body is shorter, yet fuller, as also I observed by those two, which that noble and learned Physician *Joh. Munzingerus* sent me. It hath two little low ears, round and almost pild without hair, having also short legs, five claws upon one foot behind, and six before; teeth like a mouse, but no tail, and the colour variable. I have seen of them all white, and all yellow, and also different from both those; their voice is much like the voice of a Pig, and they eat all kinds of Herbs, Fruits, Oats, and Bread; and some give them water to drink, but I have nourished some divers moneths together, and never given them any water, but yet I gave them moist food, as Herbs, Apples, Rapes, and such like, or else they would incur the Dropsie.

Their flesh is sweet for meat, of a yellowish colour, like the Larde of Swine, and therefore not so white as is our vulgar Cony: they do not dig like other Conies, and for the farther description of their nature, I will expresse it in the words of *Munzingerus* afore said, for thus he writeth.

"One of the males is sufficient in procreation for seven or nine of the females, and by that means they are made more fruitful, but if you put them one male to one female, then will the venereous falacity of the male procure abortment. It is affirmed that they go threescore daies with young before they litter, and I saw of late one of them bear eight at one time in her womb, but three of them were stifled. They bring forth in the winter, and their whelpes are not blinde as are the Conies. They are no way so harmful as other are, either to bite or dig, but more tractable in hand; howbeit untamable. If two males be put to one female, they fight fiercely, but they will not hurt

"hurt the Rabbits. As the male is most libidinous, so doth he follow the female with a little murmuring noise, bewraying his appetite for generation, without wrath, and these are also called Spanish Conies, by Peter Martyr, whose nature except in their abundant superfœtation cometh nearer to Hogs then Conies.

Of the *Fallow Deer*, commonly called a *BVCK* and a *DOE*.



Here are some beasts (saith *Pliny*) which nature hath framed, to have horns grow out of their head like fingers out of the hand, and for that cause they are called *Platycerota*: such is this vulgar Fallow Deer, being therefore called *Cervus Palmatus*, that is a palmed Hart, by reason of the similitude the horn hath with the hand and fingers. The *Germans* call this beast *Dam*, and *Damlin*, and *Dambirtz*. The *Italians* *Daio* and *Danio*; the *French*, *Dain*, and *Daim*. The *Spaniards*, *Garni*, and *Goza*. *Cortza*; the *Cretians* vulgarly at this day *Agrimi*, and *Platogna*; and *Aristotle*, *Prox*; the *Latins*, *Dama*, and *Damula*, because, *de manu*, that is, it quickly flyeth from the hand of man having no other defence but her heels; and the female *roca*, and the *Polonians*, *Lamii*. It is a common beast in most Countries, being as corpulent as a Hart, but in quantity resembleth more a Roe, except in colour.

The males have horns which they lose yearly, but the females none at all: their colour divers, but most commonly branded, or sandie on the back, like the furrow of a new plowed field, having a black strake down all along the back a rail almost as long as a Calves, their bellies and sides spotted with white, which spots they lose in their old age, and the females do especially vary in colour, being

What Hippelaphus is.

being sometimes all white, and therefore like unto Goats, except in their hair which is shorter. The horns of this beast are carryed about every where to be seen, and therefore this is also likely to be the same beast which Aristotle calleth *Hippelaphus* as some would have it; yet I rather think that *Hippelaphus* was like to that rare seen horse which Francis the first of that name King of France, had presented unto him for a gift; which was engendred of a Horse and a Hart, and therefore can have no other name then *Hippelaphus*, signifying a Horse-hart.

Aristotle.
A secret in the blood.

In the blood of these kind of Deer are not strings or *Fibres*, wherefore it doth not congeal as other doth, and this is assigned to be one cause of their fearful nature; they are also said to have no gall: in their horns they differ not much from a Hart's (except in quantity) and for their other parts they much resemble a Roe-buck: their flesh is good for nourishment, but their blood doth increase above measure melancholy, which caused *Hiera* to write thus of it, after his discourse of the Roe.

*Damula adusta magis si matris ab ubere rapta est,
Huic prior in nostro forte erit orbe locus;*

For the preparation or dressing of a Buck, we shall say more when we come to the description of a Hart. *Albertus* translateth the word *Algazel* a Fallow Deer, and sayeth that the flesh thereof is very hurtful, being cold and dry, and bringeth the Hemorrhoides if it be not well seasoned with Pepper, Cinnamon, Mustard seed, and Hony, or else Garlick, which caused *Juvenal* to cry out upon the excess of rich men for their feasts and delicate fare, being compared with the Ancients which lived upon fruits, in these words following, as they are left in his eleventh Satyre.

*Olim ex quavis arbore mensa fiebat,
At nunc divitibus cœnandi nulla voluptas:
Nil Rhombus, nil dama sapit, putere videntur
Unguentum atque rose,*

Of the medicines.

The dung or fime of this beast mingled with oil of Myrtles, increaseth hair, and amendeth those which are corrupt. If the tongue hereof be perfumed under a leech or tick that sticketh in the throat of man or beast, it causeth the leech to fall off presently; and the powder of such a tongue helpeth in a Fistula; some of the late writers do prescribe the fat of a Moul, of a Deer, and of a Bear mingled together to rub the head withall for increase of memory.

Of the second kind of Deer the ROE-BUCKE.

The several names.

There is so great difference among writers about the name of this beast, that it is a difficult and hard matter to set down certainly, in the prime and original tongues, the true and perfect denomination thereof, yet I will endeavour to go as neer the mark as can be, by laying together all the probabilities that I find in other, or observe by my self. To begin then with the *Hebrew* as the fountain of all the residue, they call it *Zebi*, and the feminine hereof *Zebiath*, and therefore in Deut. 14. it is permitted to the *Jewes* to eat; and the plurall of the Masculine is *Zebaim*, and of the feminine *Zebaoth*. The *Chaldee* translation calleth it *Thabia*, which in the Acts of the Apostles cap. 9. is called *Tabitha*, and is interpreted *Dorcas*, a Roe: and sure it is probable that the *Hebrews* so call a Roe, because of the outward beauty thereof, being full of spots upon a ground or skin of another colour, shewing with great delight pleasant to the beholder, which caused *Martial* to write this Distichon;

*Delicium parvo donabis dorcada nato,
Jactatis solet hanc mittere turba togis.*

The *Persians* call this beast *Abu*. The *Arabians*, *Thabiu*, which cometh neer to the *Chaldee* word; the *Germans* *Reeh* or *Rech*, and the male *Rech-bocke*, and the female *Rech-giese*; the *Illyrians*, *Serna* or *Sarna*; the *French*, *Chireau*, and *Chevreulsauuage*. The *Spaniard*, *Zorito*, or *Cabronzillo-montes*; the *Italians*, *Capriolo*, and *Cauriolo* for the male, and *Capriola*, and *Cauriola* for the female.

The *Grecians*, *Dorcas*, as the *Septuagint* do every where translate, which *Strabo* termeth corruptly, *Zorces*, also *Dorx*, *Kemas*, *Nebrous*, and vulgarly as at this day *Zarkadi*; and *Dorcalis*, *Dorcadion*, for a little Roe. The *Latins* do also use the word *Dorcas* in common with the *Grecians*, and beside *Caprea* and *Capreolus* for a little Goat, for I do not think that any learned man can find any difference betwixt



The representation both of male & female.

berwixt *Caprea* and *Capreolus*, except in age and quantity. The reason of these two latter names is, because of the likeness it hath with a Goat, for Goats, as we shall shew in their description, have many kinds distinguished from one another in resemblance; but in the horns a Roe doth rather resemble a Hart; for the female have no horns at all.

The reason of the Latine name.



These beasts are most plentiful in *Africk*, beyond the Sea of *Carthage*; but they are of another kinde then those which *Aristotle* denied to be in *Africa*: there are also in *Egypt*, and in *Germany*, and in the *Helvetian Alpes*. Likewise in *Catadupa* beyond *Nilus*, in *Arabia*, in *Spain*, and in *Lycia*: and it is to be observed, that the *Lycian* Roes do never go over the *Syrian* Mountains. *Ælianus* doth deliver these things of the *Lybian* Roes, which for the colour and parts of their body may seem to belong to all. They (saith he) are of an admirable velocity or swiftnes; but yet inferiour to the *Lybian* Horses, their belly is parted with black strakes and drops, and the other parts of their body are of a red yellowish colour, they have long feet, but longer ears, their eyes black, and their horns are an ornament to their heads.

Their swiftnes doth not only appear upon the earth, but also upon the waters; for with their feet they cut the waters when they swim as with Oares; and therefore they love the lakes and strong streams, breaking the floods to come by fresh pasture, as Sweet-rushes and Bul-rushes. Their horns grow only upon the males, and are set with six or seven branches, but the females have none, and therefore also they differ in horn from the Fallow-deer: so as they cannot be called *Platycerota*, for their horns are not palmed like a hand, and although they be branchy, yet are they shorter: they differ not much from the common Deer, but in their horn: and whereas the horns of other beasts are hollow toward the root, whereunto entereth a certain bony substance; the horns of these (as also of the vulgar Buck and the Elk) are solid, without any such emptines; only they are full of pores. It hath also been believed, that a Roe doth not change her horns, because they are never found; whereas in truth, they fall off yearly as doth a Harts, but they hide them, to the intent they should not be found.

It hath likewise been thought, a Roe was called in *Greek*, *Dorcæ*; because of the quickness of her sight; and that she can see as perfectly in the night as in the day; and not only for her self, but the learned Physitians have observed a certain viscous humor about her bowels, which being taken forth, and anointed upon a mans eyes, which are dark, heavy, and neer blinde, it hath the same effect to quicken his eye-sight. It is also said of them, that they never wink, no not when they sleep; *Pliny*.

Avicen.
The Countries breeding Roes,
Marcellus.
Albertus.
Pliny.
Strabo.
Their nature and several parts.

Stumpsius.

Albertus.
Pliny.
Pausanias.
Bellonius.
Edlebach.

Of their eye-sight.

Origen super *Cant.*

Textor.

sleep; *Pliny*.

*Cardanus.*The place of
their abode.

sleep, for which conceit, their blood is prescribed for them that are purblind. The tail of this beast is shorter and lesser then is the fallow-Deers, insomuch as it is doubtful whether it be a tail or not.

They keep for the most part in the Mountains among the rocks, being very swift, and when they are pursued by Dogs, (*Martial* saith) they hang upon the rocks by their horns to deceive the Dogs, after a strange manner ready to fall and kill themselves, and yet have no harm, whither the Dogs dare not approach, as appeareth in this Epigram:

*Pendentem summa capream de rupe videbis,
Casuram speres, decipit illa Canes:*

Yet this doth better agree with the wilde Goat then with the Roe, as shall be manifested in due time.

Their concord
with other
beasts.*Columella.*Of their take-
ing.*Bellisarius.**Cresconius.*
The use of
their flesh.

Ælianus saith, that the *Cynoprosopi*, men with Dogs faces, live upon the flesh of Roes and Bugles, in the Wildernesse of Egypt: and also it is usual to conclude them in Parks; for they will agree very naturally with Hares and Swine: wherefore in the Lordship which *Varro* bought of *Piso*, it was seen how at the sound of a Trumpet, both Roes and Boars, would come to their usual places for meat: and although they be naturally very wilde, yet will they quickly grow tame and familiar to the hand of man; for *Blondus* did nourish many at *Rome*. Being wilde, they are hunted with Dogs, shot with Guns, taken in nets; but this falleth out seldom, because they live most among the rocks.

They are most easily taken in the Woods. When they are chased, they desire to run against the wind, because the coldness of the air refresheth them in their course; and therefore they which hunt them place their Dogs with the winde; for sometimes against the hunters mindes, do what they can to the contrary, she taketh her course that way: but Harts when they hear the barkings of Dogs, run with the wind, that the favour of their feet may pass away with them. They are often taken by the counterfeiting of their voyce, which the hunter doth by taking a leaf and hissing upon it.

They are very good meat (as *Philostatus* affirmeth) and that the *Indians* dress at their feasts whole Lyons and Roes for their ghests to eat, and the *Sophists* in their banquet, which is described by *Athenus*, had Roes therein: and therefore *Fiera* preferreth it before the fallow-Deer, alleading the agreement that is betwixt it and the body of man, being dressed according to Art.

Simion Sethi.
Avicenna.

*Hic optata feret nobis fomenta calore
Uda levi, medicis moxque coquenda focis.*

*Trallianus.**Apicius.*
Of the dispo-
sition and pas-
sion.

And therefore also affirmeth, that it excelleth all wilde beasts whatsoever, being not only fit for nourishment, but for the sick; as for them that have the Colick, or the Falling Evill, or the Tympany: and therefore they are best at a year old, or under. Likewise their broth with Pepper, Lovage, seed of Rue, Parsley, Honey, Mustardseed, and Oyl; and for sauce to the meat, they take Pepper, Rue, Honey melted, and an Onyon: sometime also they seethe the hanches or hips, and make Pasties of the sides and ribs. It is a beast full of fear, and therefore the flesh thereof although it be very dry, yet will it engender some melancholy; of the fear *Martial* saith thus:

*Tam dispar aquile columba non est,
Ac dorcas rigido fugax leoni.*

As the Dove from the Eagle, and the Roe from the Lyon, which afterward grew into a Proverb. It hath also some Epithets among Authors, which do confirm their disposition full of fear: as flying, weak, wanton, and such like; yet will they fight one with another so fiercely, that sometime they kill each other.

Their enemies
in nature.
Sacrifices of
Roes.*Pausanias.*
Ælianus.

They fear also the Woolfs, whereof came the proverb, that first of all the Roes will be joynd to the Woolfs, to expresse an incredible matter. They have also been used for Sacrifice to *Diana*, for the *Saphria* women in *Patras*, did lay upon her great Altar whole Harts, Bores, Roes, and other beasts alive: and the *Cepite* did eat the males; but religiously worshipped the females, not daring to eat them, because they believed that *Isis* loved them dearly.

Of these beasts came the Islands *Capree* beyond *Surrentum* in *Campania*, where *Tiberius* had a famous Castle, and was ennobled by his presence; but since the decay thereof, it is now celebrated for the multitude of quails that are found therein.

The medicines
arising from a
Roe.

The remedies or medicines coming from this beast are these: first, the flesh of them eaten, is good against all pains in the small guts, for it dryeth and stayeth the belly. *Pliny* affirmeth, that the teeth of a Dragon tyed to the sinews of a Hart in a Roes skin, and wore about ones neck, maketh a man to be gracious to his Superiors, and them to be favourable and pitiful to him in all his supplications; and if the white flesh in the brest of the *Hiena*, & seven hairs thereof with the genital of a Hart, be tyed in a piece of Roes skin, and hanged about a Womans neck, it maketh that her womb shall suffer no abortments; but these things are trivial, and not to be believed but at pleasure. I know that the tail of a Dragon tyed to the Nerves of a Hart in a Roes skin, the suet of a Roe with Goose-grease, the marrow of a Hart, and an Onyon, with Rozen, and running Lime, do wonderfully help the falling Evill, (if it be made into a plaister.)

Sextus saith, that if one give the brain of a Roe drawn or pressed through a ring to an Infant, it will

will preserve him for ever from the Falling sickness and apparitions. The liver of a Roe sod in salt water; and the eyes of a purblind man held over the fume or reek thereof, are cured of their blindness: and some seethe it in a little cup, and anoint the eyes with the scum or froth coming from it. The same liver being burned to powder, and the dust cast on a man bleeding, stayeth the issue or flux. The gall of this beast mixed with Wine, and the Meal of Lupines the weight of a groat, and Hony, take away the spots of the face: and the same gall mixed with water, helpeth a Sun-burned-face, and freckles: The same with Hony Attick, taketh away the dimness from the eyes, and with the juyce of a gourd anointed upon the eye-brows, causeth that where the hair hath been pulled off, that it never shall grow again; and this gall is always the better for the age thereof, and as Hippocrates did prescribe, it must be kept in a silver pipe or box.

For the tingling of the ears, take with this gall the Oyl of Roses, with the juyce of an Onyon beaten together, and instilled warm into the ears for a present remedy: so also, with the Oyl of Roses only, it helpeth the pain in the teeth, and with the Hony Attick, all swellings or pains in the jaws or chaps, putting thereto Myrrhe, Saffron, and Pepper. The same gall with a little Hogs-bread, and the powder of burnt Allum with Anise-seed, made into a Suppository, procureth looseness, if the party have not the Hemorrhoids.

Also, the gall taken with Hony, and the juyce of Eglantine, cureth the exulceration of the virile member, by anointing it. The Spleen being drunk, helpeth windiness, and the milt is commended against the Colick and biting of Serpents.

Against the Jaundise they take the dung of a Roe dryed and sifted, and drink it in Wine; the same also so drunk cureth the Ague; and because the Roe-buck doth wonderfully love his female, there be some that affirm, that if a woman eat the bladder of a Roe, it will likewise make her husband to love her exceedingly.

Of the first kinde of *TRAGELAPHVS* which may be called a *DEER-GOAT*.



There

Plinius.
Of the genera-
tion of this
beast.

Athenaus.
The Countries
of this beast,
and the name
hereof.

Xenophon.
Plutarch.
Calius.

Of the parts.
Of the Coun-
tries of this
beast.

Agricola.
Of their
strength and
colour.

A secret in
their passion.

There is another kinde so like a Deer (although conceived of a Buck-Goat and a female Hart) that I cannot but express the figure and brief narration thereof (as is in the foregoing page.) It is like a Deer (except the beard and bristles growing about the shoulders) and *Pliny* affirmeth, that they are found about the river *Phasis*, in *Arabia* and *Arachotē*, which is a City of *India* so called of *Arachotus*, a river issuing from *Caucasus* which the *Græcians* call *Tragelaphos*, and the *Germans*, *Ein Brandbirse*; and some think this beast to be mentioned by the name of *Ako*, in *Deut.* 14. This doubtless is the same beast which *Aristotle* calleth *Hippelaphus*, because he attributeth the self same things to it that *Pliny* ascribeth to this, both for the beard, the bristles, and deep hair about the shoulders, which hangeth down like the mane of a Horse.

The similitude both in proportion and quantity holdeth with a Hart in the feet which are cloven, and that the female thereof doth want horns. The horns of the male are like the horns of a Roe. Therefore howsoever some have imagined that there is no such beast to be found in the world, they are rather to be pitied then confuted, for it is not to be doubted, that neither the Ancients, nor other, ever have seen all the divers and marvailous shapes of Beasts, which are to be found in many remote and far distant places of the world, especially in *Arabia* and *India*, where are many Deserts; and therefore the reason why they affirm this, is, because they never saw any such, and so it is to be understood: for the rare pictures of these beasts called in ancient time *Canathra*, whereupon children were carried in Pageants and shews, gave them occasion to think, that these were but mens devises, and that God never ordained such creatures. *Georgius Fabritius* which sent me this picture, doth among other things write unto me very probably, that this kinde is only distinguished from other in form, name, and strength, and not in kinde: and this being more strange and less known among men, was called by the *Græcians*, *Tragelaphus*; being greater then the vulgar Deer, deeper haired, and blacker in colour, and this (saith he) is taken in the Ridings or Forrests of *Misena*, bordering upon *Bohemia*, and the common sort of hunters hold opinion, that by reason it loveth to lie where Coals are made, and in their dust, feeding upon such grasse as groweth in those places, that therefore the *Germans* call it *Brandbirze*, and so the Foxes which resemble them in colour, are called *Brandfische*.

It is for certain that these are greater and stronger then Harts, their upper part of the back being black, and the neather neer the belly not white (as in a Hart) but rather blackish; but about his genitals very black. I have seen the horns to have seven spires or branches, growing out of one of them, being palmed at the top. These are like to those which are called *Acheines* in *Greek*, by reason of their pain and sorrow: and *Kummerer* in *German*, because they live in continual sorrow for their young ones, while they are not able to run out of their dens, belike fearing by some instinct of nature, lest their tender and weak age, should betray them to the Hunters, before they be able to run away.

The Figure of another *TRAGELAPHUS*, or *DEER-GOAT*,
expressed by *Bellonius*.

The description
of his seve-
ral parts.

There is another *Tragelaphus* (saith he) whereof I finde no name among the *French*: it wanteth a beard, and the hair thereof resembleth an *Ibex-Goat*, (whose description followeth afterward among Goats:) the horns hereof are like a Goats, but more crooked and bending, compassing behinde, as a Rams do, which he never loseth. His face, nose, and ears, are like a Sheeps, the skin of his cods being very thick and hanging down. His legs are white like a Sheeps; his tail white; his hairs are so long about his neck and stomach, that you would think it were bearded. His hair on the shoulders and breast black, and it hath two great spots on its flanks on either side: the nostrils are



are black, the beak or face white; so also is the belly beneath, but the description hereof seemeth rather to agree with a *Pygargus*, or *Musmon*, of which I shall speak afterward.

I do rather approve the relation of another of this kinde, which was sent unto me by that most learned English Physician *Iohn Cay*, which as he writeth unto me, was brought in the year 1561. out of the Countrey of *Mauritania*; which was cloven-footed, and liveth for the most part in the Mountain parts of that Countrey, being in quantity betwixt a fallow-Deer and a Hart, the body more like a Hart, and the side branded and hanging down: a shorter and thick neck, the colour in the Winter black, and red, set one with another; the beard like a Goat, but more divided and turned backward; his hair very long, even to his knees, a mane full of bristles, stretched out in length through his whole neck, but especially about the top of his shoulder-blades, where it standeth like bunches, being in colour darker then in other parts of the body; and the hinder legs are covered with longer and harder hairs down to the pastern. (as I think) for no other cause but to defend them from harm in his leaping: and the hoof of this beast was more strange (for being cloven, as was said before) the outward hoof in his fore-legs is longer and greater then the inward, and contrary in the hinder: and the inward clove thereof is longer and greater, and the outward smaller and shorter; so as on either side you would think one of them was the hoof of a Goat, and the other of a Hart, both of them hollow and without soles; whereof I can give no other reason, then the pleasure of nature, which hath so provided, that whereas this beast liveth among the rocks, and sharp places of the Mountains, his foot-steps are by his hollow hoofs more firm and stable, because by that means, the stones and sharp-pointed rocks entrench into them to stay them up from sliding: but it is more strange in the females hoofs, for they have upon the top and upper face of them three or four pleasant impressions, (as it were of carved or imbroydered flowers, if a man mark them earnestly) which I think are given unto them only for ornament and delight.

A secret in the hoof.

Either sex loose every year their hoofs, and Harts do their horns, that nature may shew their resemblance in their feet to a Hart, as he doth in their head to a Goat. His ear is short like a Goats; but his eye, genital, stones, and tail, like a Harts, though somewhat shorter. The horns like a Rams, crooked and distinguished in the middle, by a black line all their length, which is two Roman feet and one finger, and in compass at the root, one foot, one palm and a half, standing one from another, where they differ most not above one foot, three palms, one finger and a half. The rugged circles going about them, toward the top are buncy, and toward the bottom or root they are low, with beaten notches or impressions.

They are not at the top distant one point from another, above one foot and a palm. The length of their face, from the Crown to the tip of their nose, one foot and three fingers: the breadth in the fore-head, where it is broadest, two palms and one finger.

Their quantity in length and breadth.

The height of this beast not above three foot and a half, except where his mane standeth, and the whole length hereof from the crown of the head to the tail is four feet and a half and two fingers.

It hath only teeth beneath on the neather chap, and those in number not above six, neither did I observe any defect in them. It cheweth the cud like other cloven-footed beast. The nostrils are black, from whom the upper lip is divided by a long perpendicular line. It is a gentle, pleasant & wanton beast; in the disposition rather resembling a Goat then a Hart, desiring the sleepest and slipperiest places whereon it leapeth, and from whence (it is reported) that it doth cast down it self headlong upon the horns naturally, that by them it may break the violence of his fall or leap, and then stayeth his body upon the fore-knees.

Of the description of this beast.

It will run a pace, but it is most excellent in leaping, for by leaping it ascendeth the most highest Mountains and Rocks. The females are greater then the males, but not in horn or hair, it eateth Grasse, Oats, Cheafil, Hay, and Bread, they bring forth twins every time: and this we call in England a *Barbary Deer*. Thus far Doctor *Cay*.

Of the HART and HINDE.

The male of this beast is called in *Hebrew*, *Aial*, Deut. 14. and the *Arabians* do also retain that word in their translations; the *Persians* call him *Genazen*; the *Septuagint*, *Elaphos*; the *Grecians* at this day *Laphe Pelaphe*; and *Saint Jerom* for the *Latines*, *Cervus*; the *Chaldees*, *Aielah*; the *Italians*, *Cervo*; the *Spaniards*, *Cierro*; the *French*, *Cerf*; the *Germans*, *Hirtz*, or *Hirs*, and *Hirsch*; the *Flemmings*, *Hert*; the *Polonians*, *Gelen*; the *Illyrians*, *Ielii*, *elii*. The female or Hinde likewise termed in *Hebrew*, *Aial*; and sometime *Alia*, and *Aielet*; the *Latines* and *Italians*, *Cerva*; the *Spaniards*, *Cierva*; the *Germans*, *Hinde*, and *Hindin*; and the *Germans* more specially, *Hin*, and *Walprecht*; the *French*, *Biche*; and the *Polonians*, *Lanii*. The young Fawns or Calfs of this beast they call in *Latine*, *Hinnuli*; the *Grecians*, *Nebros*; the *Hebrews*, *Ofer*; the *Germans*, *Hindcalb*.

The names of a Hart.

The names of a Hinde.

The names of a Hinde-calf.

Also it is not to be forgotten, that they have divers other names, to distinguish their years and Countries, as for example: when they begin to have horns, which appear in the second year of their age like bodkins without branches, which are in *Latin* called *Subule*, they are also called *Subulones*; for the similitude they have with Bodkins: and the *Germans* call such an one *Spirzbertz*, which in *English* is called a *Spittard*; and the *Italians*, *Corbiati*; but the *French* have no proper name for this beast that I can learn, untill he be a three yearling, and then they call him (*ein Gabler*) which in *Latine* are called *Furcarii*.

Aristotle.

Pliny.

Of Spittards

and Subulons;

And

Of Brocards.

The quantity
of Brocards.

And indeed I was once of this opinion, that these *Subulones* were only two-yearling Harts, untill I consulted with a *Savoyan* of *Segusium*, who did assure me from the mouths of men trained up in hunting wilde Beasts from their youth; that there are a kinde of *Subulones*, which they call also *Brocards*, with straight and unforked horns except one branch, in the Mountain of *Jura* near the lake *Lemanus*, and that these also do live among other Harts; for there was seen neer a Monastery, called the *Roman Monastery*, by certain Hunters, in the year 1553. a vulgar Hart with branched horns, and his female; and likewise with a *Subulon*, or *Brocarde*, which when in pursuit he was constrained to leap from rock to rock, to get to the water, he brake his leg and so was taken. These *Brocards* are as great in quantity as other vulgar Harts, but their bodies are leaner, and they swifter in course.



Of their horns.

They have but one branch growing out of the stem of their horn, which is not bigger then a mans finger, and for this cause in the rutting time, when they joyn with their females, they easily overcome the vulgar Hart, with his branched and forked horns. The Hunters call this *Brocard* the shield-bearer to the residue; for by him they are delivered being hunted: for whereas it is the nature of the vulgar Hart, to get into ditches, and hide himself in hollow places when he heareth the Hounds, this Beast never coveteth any secret place to cover himself, but runneth still in the sight of Dogs, who leave the other that hide themselves, because they keep this on foot: and so when the Hunters are passed by the lurking Harts, they return back again, being safe both from Nets and Dogs, while the poor *Brocard* is chased unto death.

These being old, are also known by their teeth and horns, for they never change them; but it is questionable, whether they have any Hindes or females, although my Author informeth me, that he heareth there be also Hindes with horns like these, being not above one finger long; which if it be true, it is not improbable that these are the females of that kinde: whereunto I yeeld more easily, because the vulgar Hindes will not admit copulation with the *Brocard*, except they be constrained, and as it were ravished against their will, from whence it cometh that they are so rare and seldom bred: their flesh is much sweeter then the vulgar Harts.

I have therefore here expressed the figure of the head of this Beast with his horns, which is also called *Anamynia*, or a *Burgundian Brocard*, whose horns are at the longest about eighteen inches long, and at the shortest about nine inches, whereof that part which cleaveth to the head is bunchy and indented: the longest as they grow in length,

The figure of the face and horns.



length, do more and more stand out one from another, turning up at the top like a bow, but the lesser do not stand out so far, and bend very little at the point; and whereas in the vulgar Harts the root of the horn is but in a round circle, as it were fastened upon the skull of the Beast, in this the bony roots lie within the skins much deeper, as may be easily discerned by comparing both together.

The reason why I call this *Burgundian* Hart, or *Subulon Anaminta*, is, because it not only wanteth the manifold branches of vulgar Harts, but that also which is called *Amynta*.

There are also another sort of Harts called *Achaii*, bred in *Crete* near *Achaea*, whereas in all other parts of *Crete* there are no Harts, whereof it is affirmed by *Gaza*, that there was one of them which had a bough of green *Ivie* growing in his horns, it was conjectured that when it was young, some sprig of that *Ivie* was taken in a slitter of the horn, which by reason of some nourishment it found in the horn natural to that tree, being like a rocky substance, it there grew to more perfection. These are also called *Spathene*, although that term be also given unto vulgar Harts, to signify their full age; yet some are of opinion, that this *Achaian* Hart was but an invention or figment made in bread; for there was in antient time a kinde of loaf called *Achaines* in the likeness of a Hart.

Aristotle.
Of the *Achai-*
an Harts.
Gaza.
A miracle in
the horn of
this beast.
Athenens.

The picture of another face and horns.



I received also of that learned man *John Cay*, another head out of *England*, which he conjectureth to be the head of the palmed Buck, as it was called by *Julius Capitolinus*, which I do not take to differ from the fallow-Deer: and yet because this seemeth to be of the most excellent kinde, I have thought good to express it in this place, being far different from all other horns of this kinde of Beasts, and more beautiful.

Harts are bred in most Countries, but the Ancients do celebrate and prefer those of *Britain* before other, where they are of divers colours both white and black, as *Pausanias* affirmeth. In *Oedor*, a region of *Asia*, toward the Northern Ocean, they ride upon Harts; likewise there are Harts in *Scythia*: and the people call *Medita*, which are subject to the Kings of *Tartaria*, make their Harts so tame, that they also ride upon them: there are none in *Crete*, except in the region of the *Cydonites*. There are also in the Woods of *Helvetia*, but not so many as in time past, because *Democracies* do not nourish game and pleasures like unto Monarchies, and therefore they are daily killed by the vulgar sort, there being no law against it.

Of the regions
breeding
Harts.
Solinus.

The Harts of *Hellepont*, and about *Arginussa*, have one of their ears slit or cut asunder by nature in their dams belly; and therefore they never go over the Mountains into other regions: (as indeed it is the property of all Harts to love their native soils above all other places.) There is a City called *Dora*, in *Affyria*, near the banks of

Eliahis.
Aristotle.
A secret in the
ears of Harts.
Ammianus.
A History.

Euphrates, where are many flocks of Harts, of whom many times some are slain with Darts, and others as they swim away to their accustomed solitudes are oppressed in the water by the weight of Oares, and so taken. They are for the most part sand-coloured, and intermingled with some white spots, especially the Hindes and their Calves, and sometimes milk-white, which happeneth unto them by some defect in their nourishment before they be calved; and for natural imbecillity: so have I seen white Bears, Hares, Quails, Partridges, and Swallows.

Pollux.
Varinus.
Of the colour;
Aristotle.
Buellius.
Philostratus.
A History.
Plutarch.
Gellius.

When *Apollonius* and his Colleagues travelled by *Paraca*, a City of *India*, they suddenly heard a noise like the sound of a pipe, and while they looked about to see what it signified, they perceived that it was the pipe of a Keeper or Forrester, which governed a whole flock of white Harts: such an one was the Hart of *Senorius* that noble Captain, whereby he led his Army, as they were perswaded by it, who affirmed that it was a *Spanish* Prophet or Wizard given to him by a certain *Lusitanian*, whom he took in an Island of *Portugal*; saying moreover, that she was inspired by *Diana*, and that she had authority from that Goddess to admonish him, and make the hearts of his Souldiers cleave fast unto him; and therefore if at any time he miscarryed in his proceedings, he could easily pacifie them from mutinies, in saying, that his Hart set him upon that enterprize, so putting off the fault cunningly from himself to the beast for fear of defection, wherefore also these were used in the *Bacchanals* of *Cracovia*, and their flesh being softer, is peculiarly reamed by the *French*, *Penaisson*. These do excell all other in the Beauty of horns, which are very high, yet grow they not to their bones or skulls, but to their skin, branching forth into many speers, being

Of their
horns, and the
beauty of
them.

solid throughout, and as hard as stones, and fall off once every year, but if they remain abroad in the air, where some winde and rain fall upon them, so as now they are wet, and anon dry again, they grow as light as any vanishing or softer substance, as I have proved by experience, finding some which have been lost by them in the Woods: wherefore I gather that they are of an earthly matter, concrete and hardned with a strong heat made like unto bones. It must be understood that the males only are horned, and yet have they small benefit by them, because (as I said) they grow but within their skin, and these also they lose every year in the Spring time. At one year old they have nothing but small bunches, as it were significations of their horns to come growing on their head; at two years old they appear more perfectly, but straight and simple; at three years they grow forked into two speers, at four into three, and so increase every year in their branches till they be six, and above that time you cannot certainly discern their age by their head, for their horns or speers grow not more in number, although their years make them greater in quantity: yet the old Harts do want these two branches, which the *Grecians* call *Amynterai*, and the *Latines*, *Adminicula*; because they first come forth: and I have heard there were Harts horns in an Apothecaries shop of *Antwerp*, which had every one fifteen branches upon one stem, which if it be true, it goeth beyond all experience. Every year in the month of *April*, they loose their horns, and so having lost them, they hide themselves in the day time, inhabiting the shadowy places, to avoid the annoyance of flies, and feed only during that time in the night. Their new horns come forth like bunches at the first, and afterward by the increase of the Suns heat, they grow more hard, covered with a rough skin, which the Hunters for honours sake call a Velvet head, and as that skin dryeth, they daily try the strength of their new head upon trees, which not only scrapeth off the roughness, but by the pain they feel in rubbing them, they are taught how long to forbear the company of their fellows; for at last, when in their chafing or fretting of their new horn against the tree, they can no more feel any smart or grief in them, they take it for high time to forsake their solitary dwellings, and return again to their former condition, like one that is supplied with new arms, after the losing of his old. The tender and new horns the *Germans* call *Morchi*, and *Kolben*: these being taken from the Beast, are accounted among great Noble men a delicate dish of meat. *Cyprius* is said to have a Hart with four horns, which was called *Nicocreas*, and by him dedicated to *Apollo*, which I do therefore remember in this place, because it is seldom seen, that an Hart can bear naturally above two horns. Authors do generally affirm, that when a Hart hath lost his horns, he hideth them in some secret places, because he understandeth some secret vertues are contained in them, which mankind seeketh for, and therefore he either envying the good of other, or fearing lest they bewray him hereafter to Hunters, taketh the best care and providence his discretion can afford, that they never come to the handling of men. When the people asked *Apollo*, what they should do with *Procles* their Tyrant, the Oracle answered, that he should go to that place where Harts cast their horns: whereby it was gathered, that he should be slain and buried in the earth, and this caused the Proverb, *Ubi cerui abiciunt cornua*, to signifie a desperate business: yet could it not be agreed, whether the Hart make more account of his right horn or his left, and therefore *Aristotle* affirmeth, that the left horn is never found; and *Pliny*, that the right horn is never found.

The time of
losing their
horns.
Pliny.

Ælianus.
A history of a
Hart with
four horns.

Whether the
right or left
horn be most
pretious.

Of the horns
of Turkey
Harts.

Bonatus.

Orus.
The reasons
why Harts and
Deer lose
their horns
yearly.

This difference may be reconciled with ease, for right and left are so teamed for three causes, or three manner of ways. First, properly in all creatures, according to the beginning of motion. Secondly, for similitude or likeness, as the right and left side of Images, statues, &c. Thirdly, improperly when the right side of one thing standeth against the left side of another, being opposite, as when two men stand face to face, and by this reason may the left horn of *Aristotle*, and the right horn of *Pliny* signifie all one thing: but we know that the horns of Harts are found yearly both in Fields and Woods.

The wilde Harts of *Sarmatia* neer *Turkie*, have the greatest horns of all other, for it hath been proved, that one pair of them have weighed forty pounds *Troy* weight and above: and there they lose their horns in *March*, neither do they fall off together, but first one, and then the other, and after the first falling, it is manifest, that a certain worm getteth on them, and maketh upon them many circles and little furrows, whereby the root or basis being weakened, the horn groweth very white in that place, and yet not without some appearance of blood remaining, which cleaveth to it, from the first falling off: for, when the head of this Beast is disarmed, there issueth blood from the skull, and in appearance the naked place is like a wound, and yet it is wonderful to mark, that within three days the same is heald and filled with the blood which congealeth in that place first to a finew, and afterward to a hard bone, so as in *August* at the farthest, the horns are perfect; and therefore the *Egyptians* to describe a long-lived man, picture a Hart losing his horns every year, and new coming in their place. If any man be desirous to know the reasons, why only Beasts of this kinde lose their horns in this manner; I will not spare my pains to set down the best, which Authors have rendered for this wonder of nature.

First, because of the matter whereof they consist, for it is dry and earthy like the substance of green leaves, which fall off yearly, wanting glewing or holding moisture to continue them; and for this cause the horn of a Hart cannot be bent. Secondly, from the place they grow upon, for they are not rooted upon the skull, but only within the skin. Thirdly, from their efficient cause, for they are hardned both with the heat of Summer, and cold of Winter, by means whereof the pores to receive their nourishment liquor, are utterly shut up and stopped, so as of necessity their native heat dyeth: which

which falleth not out in other Beasts, whose horns are for the most part hollow, and fitted for longer continuance, but these are of lesser, and the new bunches swelling up toward the Spring, do thrust off the old horns, being help either by the boughes of trees, by the weight of the horns, or by the willing excussion of the beast that beareth them. *Democritus* and other (as *Gillius* and *Aelianus*) give other reasons, but because they seem to be far fetched, I will omit them. Yet by the way, it is to be noted, that if a Hart be libbed or gelded when he is young, he never beareth horns, or very small ones; and if his horns be upon him at the time of gelding, they never waxe less, or greater, or fall off. The Hinde never bear horns at all, as some have affirmed, but I rather believe *Cesar*, *Maximilian*, and *Zenodorus*, who affirm upon their knowledge, that Hinde in some Countries have horns like the males: as likewise it is observed in the Elephants of *India*, and for this cause the Poets expressed the Hinde which nourished *Telephus* with horns, and that which *Hercules* took with golden horns, and it is for certain, that in *Ethiopia* and *Lybia*, both sexes have horns.

A natural secret of gelded Deer.
Aristotle.
Pliny.
Solinus.

The face of this beast is fleshy, his nostrils flat, and his neck very long; his ears, some greater, and some smaller; but in the Mount *Elaphus* and *Hellepont*, they are slit. It is observed, that when a Hart pricketh up his ears, he windeth sharp, very far and sure, and discovereth all treachery against him, but if they hang down and wag, he perceiveth no danger. By their teeth is their age discerned, and they have four on both sides, wherewith they grinde their meat, and besides two other much greater in the male than in the female, and they bend downward to bite withall. All these beasts have worms in their heads bred underneath their tongue in a hollow place, where the neck-bone is joyned to the head, which are not bigger then such as flies blow in rotten flesh. They are ingendered together one with another, and they are in number twenty, as some would have it; but I was given to understand by one that saw a head of this Beast dissected, wherein were many more Worms, and not contained in one place, but spread all over the head.

The several parts.
Aristotle.
Aristotle.

The breast is by the *French*-men called peculiarly *Hampan*, his blood is not like other Beasts, for it hath no *Fibres* or small veins in it, and therefore it is hardly congealed. His heart is very great, as it so falleth out in all fearful Beasts, having in it a bone like a Cross, as shall be afterward manifested. His belly is not of one fashion, as it falleth out in all other which chew the cud.

He hath no gall, which is one cause of the length of his life, and therefore also are his bowels so bitter, that the Dogs will not touch them, except they be very fat. The *Achaian* Harts are said to have their gall in their tails; and others say, that Harts have a gall in their ears. The Harts of *Britannia* and *Ibarnie*, have their reins quadrupled or four-fold. The genital part is all nervy, the tail small; and the Hinde hath udders betwixt her thighs with four speans like a Cow: Both male and female are wonderfully swift, and subtile, as shall be shewed in the discourse of their hunting. They are also apt and cunning to swim, although in their swimming they see no land, yet do they wind it by their noses. They chew the cud like other Beasts. It is reported, that when a Hart is stung by a Serpent, that by eating *Elaphoscum*; (that is, as some call it, Harts-eye; other Hart-thorn, or grace of God; others Wilde Ditany) it presently cureth the wound, and expelleth the poyson: the same vertue they attribute to *Polypodie*, against the wound of a Dart.

Aristotle.
Pliny.

Of their disposition.
Pliny.
A secret to cure poyson.

Having thus entred into mention of their food, it is to be farther observed, that the males of this kinde will eat Dwall or Night-shade, which is also called Deaths-herb, and they also love above all other food wilde Elder, so as in the Summer time they keep for the most part in those places where these plants grow, eating the leaves only, and not the boughes or sprigs: but the Hinde will eat neither of both, except when she beareth a male in her belly, and then also by secret instinct of nature, she feedeth like a male. They will also eat Serpents, but whether for hatred to them, or for medicine they receive by them, it is questionable. A Hart by his nose draweth a Serpent out of her hole, and therefore the *Grammarians* derived *Elaphos*, a Hart, from *Elainein tous opheis*, that is, of driving away Serpents.

Of their food.
Tragus.

A secret in the Hinde.
How Harts draw Serpents out of their holes, and wherefore they eat and devour them.

I cannot assent to the opinion of *Aelianus*, that affirmeth the Serpents follow the breath of a Hart like some Philtre or amorous cup; for seeing that all Authors hold an hostility in natures betwixt them, it is not probable, that the Serpent loveth the breath of a Beast, unto whose whole body he is an enemy, with a perpetual antipathy. And if any reply, that the warm breath of a Hart, is acceptable to the cold Serpent, and that therefore she followeth it, as a Dog creepeth to the fire, or as other beasts to the beams of the Sun; I will not greatly gain-say it, seeing by that means it is most clear, that the breath doth not by any secret force, or vertue, extract, and draw her out of the den, but rather the concomitant quality of heat, which is not from the secret fire in the bones of the Harts throat, (as *Pliny* hath taught) but rather from her ordinary expiration, inspiration, and respiration. For it cannot be, that seeing all the parts of a Serpent are opposite to a Hart, that there should be any love to that which killeth her.

For my opinion, I think that the manner of the Harts drawing the Serpent out of her Den, is not as *Aelianus* and *Pliny* affirmeth, by sending into the Cave a warm breath, which burneth and scorseth the Beast out of her Den; but rather when the Hart hath found the Serpents nest, she draweth the air by secret and violent attraction out from the Serpent, who to save her life followeth the air out of her den; as when a Vessel is broached or vented, the Wine followeth the flying air; and as a Cupping-glass draweth blood out of a scarified place of the body: so the Serpent is drawn unwillingly to follow her destroyer, and not willingly, as *Aelianus* affirmeth.

Unto this opinion both *Oribasius* in his Commentaries upon the Aphorisms of *Hippocrates*, and *Gunterius* his restorer do joyntly agree: but the Serpent being thus drawn forth, addeth

Ælianus.

greater force to her poyson, whereupon the proverbial admonition did arise. *Cave ne incideris in serpentem, cum extraxit a latebris anhelitu cervi effugerit, tum enim propter iracundiam vehementius ei venenum est*, that is, Beware thou meet not with a Serpent drawn out of her hole by the breath of a Hart, for at that time by reason of her wrath, her poyson is more vehement. After this self same manner do the Sea-Rams, draw the Sea-Calfs hid in the *Subterranean Rocks*; for by smelling they prevent the Air that should come unto them for refrigeration.

*Oppianus.**Gillius.*

The fight be-
twixt Harts
and Serpents.

There is many times strange conflicts betwixt the Hart and the Serpent, thus drawn forth; for the Serpent seeing her adversary, lifteth her neck above the ground, and gnasheth at the Hart with her teeth, breathing out very bitter hissings: on the contrary, the Hart deriding the vain endeavour of his weak adversary, readier to fight then powerful to harm him, suffereth him to embrace both his neck and legs with his long and thin body, but at an instant teareth it into an hundred pieces. But the most strange combats are betwixt the Harts and Serpents of *Lybia*, where the hatred is deeper; and the Serpents watch the Hart when he lyeth a sleep on the ground, and being a multitude of them, set upon him together, fastening their poysonful teeth in every part of his skin; some on his neck and breast; some on his sides and back, some on his legs, and some hang upon his privy parts, biting him with mortal rage, to overthrow their foe.

The poor Hart being thus oppressed with a multitude, and pricked with venomous pains, assayeth to run away, but all in vain, their cold earthy bodies and winding tails, both over-charge his strength, and hinder his pace: he then in a rage with his teeth, feet, and horns assaileth his enemies, whose spears are already entred into his body, tearing some of them in pieces, and beating other afunder: they never the less (like men) knowing that now they must dye rather then give over, and yeeld to their pitiless enemy, cleave fast, and keep the hold of their teeth upon his body, although their other parts be mortally wounded, and nothing left but their heads, and therefore will dye together with their foe, seeing if they were afunder, no compassion can delay or mitigate their natural unappeaseable hatred.

The Hart thus having eased himself by the slaughter of some, (like an Elephant) at the sight of their blood, bestirreth himself more busily in the eager battail, and therefore treadeth some under foot in the blood of their fellows, other he persueth with tooth and horn, untill he see them all destroyed: and whereas the heads hang fast in his skin, for avoiding and pulling them forth, (by a divine natural instinct) he flyeth or runneth to the waters, where he findeth Sea-Crabs, and of them he maketh a medicine, whereby he shaketh off the Serpents heads, cureth their wounds, and avoideth all their poyson; this valiant courage is in Harts against Serpents, whereas they are naturally afraid of Hares and Conies, and will not fight with them.

*Etymologus.**Varinus.**Isidorus.*

It is no less strange that Harts will eat Serpents, but the reason is, for medicine and cure; for sometimes the pores of his body are dulled and shut up: sometimes the worms of his belly do ascend into the roof of his mouth, while he cheweth his cud, and there cleave fast: for remedy whereof the Hart thus affected, runneth about to seek for Serpents; for his devouring of a Serpent, is a cure of this malady.

Pliny saith, that when the Hart is old, and perceiveth that his strength decayeth, his hair change, and his horns dry above custom, that then for the renewing of his strength, he first devoureth a Serpent, and afterward runneth to some Fountain of water and there drinketh, which causeth an alteration in the whole body; both changing the hair and horn: and the Writer of the *Gloss* upon the 42. Psalm, which beginneth, *Like as the Hart desireth the water springs, so longeth my soul after God*; confirmeth this opinion.

The several
kinds of
Harts.

Vincentius Belluacensis affirmeth, that Harts eat Serpents for to cure the dimness of their eye-sight. But for the ending of this question, we must consider that there are two kinds of Harts; one which by the drawing forth of a Serpent out of her hole, doth presently kill her by stamping her under feet, this eateth that Serpent, and runneth to springing water, after that he feeleth the poyson to make his body swell, and then by drinking doth vomit forth the poyson, and in the mean time loseth both hair and horn; yet the Monks of *Mesaen* affirm, that the Harts thus poysoned doth only cover her body in the cold water, and not drink thereof, for that were exitial unto her; but she sendeth forth certain tears, which are turned into a stone, (called *Bezabar*) of which shall be more said hereafter. The other kinde of Harts, when he findeth a Serpent, killeth it, and doth not eat it, and immediately after the victory returneth to feed in the Mountains.

The enemy
beasts to
Harts.

Vincentius.

Harts are opposed by Wolves, for many Wolves together doth overcome a Hart; and therefore it is but a fable of *Strabo*, that the Wolves and Harts live tame together in the Woods of the *Veneti*. These kinde of Wolves are called *Thoes*, and they especially fear these Wolves when they have lost their horns, and feedeth only in the night season, which caused *Ovid* to write thus;

*Visa fugit nymphe, veluti perterrita fulvum
Cerva lupum, &c.*

Albertus.

They are afraid also of the first and second kinde of Eagles, for with their wings they raise much dust about the Harts, and then they being half blinde, the Eagles pull out their eyes, or else so beat their feathers about their faces, that they hinder their sight, and cause them to fall down headlong from the Mountains: they fear also the ganning of Foxes, and the Lynxes do likewise lye

in wait to hurt them. These are above all other four-footed Beasts both ingenuous and fearful, who although they have large horns, yet their defence against other four-footed Beasts is to run away. For this cause, in ancient time a fugitive Boy or Servant was called a Hart; and if he ran away twice, *Cantharion*, which *Cantharion* was a *Spartan* fugitive, that first ran to the enemy, and afterward from them came back again to *Sparta*. And *Marshall* thus describeth *Alcæus*, who being overcome by *Philip* King of *Macedon* ran away like a Hart.

*Trux spiritus ille Philippi,
Cervorum cursu præpete lapsus abit.*

The Epithets expressing the qualities of this Beast are many: as nimble, or agile, winged, or swift-paced, full of years, quick-footed, horned, wandering, fearful, flying, fugitive, light, wood-hunter, wilde and lively. There are of them very audacious, for they will set upon men as they travel through the Woods: and it is observed, that the wrathful Hart hath few bunches on his horn, neither is it so long as others, but bunched at the root; yet all of them being pressed with Dogs or other wilde Beasts, will fly unto a man for succour.

It is reported by *Philip Melancthon*, that in *Locha* (a town of *Saxony*) there was a Hart, which before rutting time would every year leap over the walls, and run over Rocks and Mountains, and yet return home again, untill the time that Duke *Frederick* dyed, and then the Hart went forth, but never returned again. The male when he feelth himself fat, liveth solitary and secret; because he knoweth the weight of his body will easily betray him to the Hunters, if he be hunted and pursued. The female commonly calveth neer the high ways, of purpose, to avoid noisome Beasts to her young one, who do more avoid the sight of man then her self. Also it is reported, that *Mithredates* had a Bull, a Horse, and a Hart, for his guard, beside men, who would not be bribed to suffer Traytors to kill him, being a sleep. Moreover it is said of *Ptolomeus Philadelphus*, that having a Hinde-Calf given unto him, he brought it so familiarly tame, and accustomed it to words, that at length it seemed to understand the *Greek* language: And *Ælianus* affirmeth as much of the Harts of *India*, for that language.

When they are wounded with a Dart, and having gotten it out of their body by eating Dittany, they most carefully avoid the Sun-beams, lest they shine upon the green wound, for then it will hardly be cured: but above all other arguments of their understanding, none is more firm and evident, then their swimming; for the Harts of *Amanus*, *Libanus*, and *Carmell*, (Mountains of *Siria*) when they are to swim over the Sea, to the fruitful green trees of *Cyprus*, they come down to the Sea-shore, and there they tarry till they perceive a prosperous wind, and a calm water; which happening, the Captain or leader of them doth first of all enter into the water, and so the next followeth, laying his head upon the Captains buttocks, and so consequently all the residue resting their head upon the precedent. In the hindmost are the youngest and weakest, that so the violence of the floods being broken by the stronger which go before, the more infirm which follow may pass with less difficulty. Thus sail they along without star or compass to direct them, except their own sense of smelling, using their legs for Oars, and their broad horns for sails. And if the foremost be weary, then slippeth he back to rest his head upon the hindmost, and so likewise the second and third, as they feel themselves enfeebled, untill they arrive at the happy port of good pasture; where growing stronger, like Beasts, fall to fighting for rule and government, but when the combat doth shew the victor and strongest, the residue do ever after yeeld obedience to him. In like sort do the Harts of *Epirus* swim to *Coreyra*, and of *Cilicia* to the Island of *Curia-dactes*.

They are deceived with musick, for they so love that harmony, that they forbear their food to follow it. Also it is amazed at any strange sight, for if a Hunter come behinde a Horse or Bullock, laying over his back his Bow and Arrows, they stand staring upon the new formed Beast, untill the Dart do end their lives.

At the time of their lust or rutting, they are above measure fierce, fighting naturally for the female, and sometimes wounding one another to death; and this falleth out most commonly in the latter end of *August*, at which time *Arcturus* riseth with the Sun, and then it is most natural for the Hindes to conceive. In some places in *October* their lust ariseth, and also in *May*; and then whereas at other times the males live a part from the females, they go about like lascivious woers, seeking the company of their females, as it were at the Market of *Venus*.

The males in their raging desired lust, have a peculiar voyce, which the *French* call by a feigned word *Reere*; and the *Germans*, *Brulen*; and the *Latines* tearm *Rancere*; and the Beasts so affected *Ologyones*. When they finde the females, they are received with fear, then in short space one male will cover many females, continuing in this carnal appetite a month or two: their females do seldom admit copulation, being herein like unto Cows, by reason of the rigour of the males genital: and therefore they sink down on their Buttocks when they feel the genital seed, as it hath been often observed in tame Harts, and if they can, the females run away, the males striving to hold them back within their fore-feet: but surely herein they differ from all other: it cannot well be said that they are covered standing, lying, or going, (but rather running) for so are they filled with greatest celerity.

Aristotle.
Of the fear of Harts.

Crinitus.
Nebrius.

The Epithets of a Hart.

A kinde of audacious Harts.
Schneberg.
Pliny.

The subtilty of a Hart, and their instruction and use.

Aristotle.

Isidorus.
The several kinds of Harts.

A secret against poison.
Solinus.
Ælianus.

Of the swimming of Harts.
Tzetzes.
Gellius.
Oppianus.

Pliny.

Solinus.
Their love of musick.

Their rage in rutting time.

Solinus.
Oppianus.

Budens.

Their copulation.

Aristotle.

Aristotle.

When one Month or six Weeks of their rutting is past, they grow tame again, laying aside all fierceness, and return to their solitary places, digging every one of them by himself a several hole or Ditch, wherein they lie, to assuage the strong savour of their lust, for they stink like Goats, and their face beginneth to wax blacker then at other times; and in those places they live, untill some showers distill from the clouds; after which, they return to their pasture again, and live in flocks together as before.

The chastity of
Hindes, and
the time they
go with
young.
Aristotle.
Pliny.
Cicero.

The female being thus filled, never keepeth company with the male again untill her burthen be delivered, which is eight months; for so long doth she bear her young: before her Calving, she purgeth her self by eating *Seselin*, or *Siler* of the Mountain; and whereas she never purgeth untill that time, then she emptieth her self of pituitous and flegmaticque humors.

Then go they to the places neer the high ways, and there they cast forth their Calf, (for the causes aforesaid) being more afraid of wilde Beasts then Men, whom she can avoid by flying: which when they have seen, they go and eat the *Seselin* aforesaid, and the skin which cometh forth of her own wombe covering the young one, finding in it some notable medicine, which the *Gracians* call *Chorton*, and not the herb *Arum*, and this she doth before she lye down to give her young one suck, (as *Pliny* affirmeth.)

Pliny.
Aristotle.
Ælianus.
The manner
how the Hinde
educateth her
Calf.
Solinus.
The time of
their life.
Aristotle.
Cælius.
Hesiodus.

They bring forth but one, or very seldom twain, which they lodge in a stable fit for them of their own making, either in some rock, or other bushy inaccessible place; covering them, and if they be stubborn and wilde, beating them with their feet untill they lie close and contented. Oftentimes she leadeth forth her young, teaching it to run and leap over bushes, stones, and small shrubs, against the time of danger; and so continueth all the Summer time, while their own strength is most abundant: but in the Winter time, they leave and forsake them, because all Harts are feeble in the Winter season.

They live very long, as by experience hath been often mentioned; not only because they have no gall (as the *Dolphin* hath none) but for other causes: also some affirm, that a Raven will live nine ages of a Man, and a Hart four ages of a Raven: whereunto *Virgil* agreeth in these verses;

*Ter binis decisque super exit in annos,
Iusta senescunt quos implet vita virorum;
Hos novies superat vivendo garrula cornix,
Et quater egreditur cornicis secula cervus,
Alipedem cervum ter vincit corvus: at illum
Multiplicat novies Phœnix reparabilis ales:*

That is, as the life of a man is threescore and six, so a Raven doth live nine times so many years, (*viz.*) 528 years. The Hart liveth four times the age of the Raven, (*viz.*) 2112 years. The Crow exceedeth the Hart three times, (*viz.*) 6336. But the *Phœnix* which is repaired by her own ashes, surmounteth the Crow nine times, and so liveth 57524 years. The which I have set down (not for truth) but for report, leaving every reader to the chiefest matter of credit, as in his own discretion he conceiveth most probable.

A History.
Solinus.

But it is confessed of all, that Harts live a very long life: for *Pliny* affirmeth, that an hundred years after the death of *Alexander Magnus*, there were certain taken alive which had about their necks golden Collars, with an inscription that they were put on by *Alexander*.

Aristotle.

In *Calabria* (once called *Iapygia* and *Peuceia*) there was Collar taken off from the neck of a Hart by *Agathocles* King of *Sicily*, which was covered with the flesh and fat of the Hart; and there was writtea upon it *Diomedes Diane*: whereby it was conjectured, that it was put on by him before the siege of *Troy*: for which cause, the King brought the same and did offer it up in the Temple of *Jupiter*.

Pausanias.

The like was in *Arcadia*, when *Arcefilas* dwelt in *Lycosura*; for he confidently affirmed, that he saw an old sacred Hinde, which was dedicated to *Diana*, having this inscription in her Collar: *Nebros eoon ealoon ota es Ilion en Agapenor*. When *Agapenor* was in *Troy*, then was I a young Calf taken. By which it appeareth, that a Hart liveth longer then an Elephant, for indeed as they live long before they grow to any perfection, their youth and weakness cleaving fast unto them, so is it given to them to have a longer life, for continuance in ripeness and strength of years.

Columello.

Solinus.
The sickness
of Harts.
Gillius.
Lullius.
Aristotle.
Pliny.

These Beasts are never annoyed with Feavers, because their flesh allayeth all adventitial and extraordinary heat. If he eat Spiders he instantly dyeth thereof, except he eat also Wilde Ivie, or Sea-crabs. Likewise *Naveu-gentil* and *Oleander*, kill the Hart. When a Hart is in his chase, he is greatly pained in his bowels, by reason that the skin wherein they lie is very thin and weak, and apt to be broken with any small stroke; and for this cause he often stayeth to ease himself.

There is a kinde of thorn called *Cactus*, wherewithall if a young one be pricked in his legs, his bones will never make Pipes. Besides these Beasts are annoyed with Scabs and Itches in their head and skin, tearmed by the *French* by a peculiar name (*Froyer*): I will not stand upon the idle conceit of *Albertus*, that Wasps and Emmets breed in the heads of Harts, for he mistaketh them for the worm, before mentioned.

Blondus.
The use of the
several parts.

The skins of this Beast are used for garments in some Countries, and in most places for the bottom of Cushions, and therefore they chuse such as are killed in the Summer time, when they are fat and most spotted; and the same having their hair pulled from them, are used for Breeches, Buskins, and Gloves. Likewise *Pliny* and *Sextus* affirmed, that if a man sleep on the ground

ground having upon him a Harts skin, Serpents never annoy him: whereof *Serenus* made this Verse:

Hesichius.
Varianus.

Aut in cervina per noctem in pelle quiescis.

And the bones of young ones are applyed for making of Pipes. It is reported, that the blood of Harts burned together with herb-dragon, orchanes, orgament, and mastick have the same power to draw Serpents out of their holes, which the Harts have being alive: and if there be put unto it wilde Pelitory, it will also distract and dissipate them again.

The marrow of a Hart hath the same power against Serpents, by ointment, or perfumed upon coles; and *Nicander* prescribeth a certain ointment to be made of the flesh of Serpents, of the marrow of a Hart, and Oils of Roses, against the bitings of Serpents. The fat of a Hart hath the like effects that the marrow hath. *Achilles* that Noble Souldier, was said never to have tasted of milk, but to be nourished with the marrow of Harts, by *Chiro*, as is affirmed by *Varinus* and *Etymologus*. The like operation hath the tooth (as *Serenus* saith)

Dioscorides.

Aut genere ex ipso dentem portabis amicum.

If the seed of a young Wilde Calf be drunk with Vinegar, it suffereth no poison of Serpents to enter into the body that day.

The perfume of the horn driveth away Serpents and noisome flies, especially from the young Calves, or from Horses if womens hair be added thereto, with the hoof of the Hart. And if men drink in pots wherein are wrought Harts horns, it will weaken all force of venom. The Magicians have also devised, that if the fat of a Dragons heart be bound up in the skin of a Roe, with the nerves of a Hart, it promiseth victory to him that beareth it on his Shoulder, and that if the teeth be so bound in a Roes skin, it maketh ones Master, Lord, or all superior powers, exorable and appeased toward their servants and suitors. *Orpheus* in his book of stones, commandeth a husband to carry about him a Harts horn, if he will live in amity and concord with his wife; to conclude, they also add another figment to make men invincible.

Ælianus.
Varro.
Palladius.
Rafis.
Gillius.
Pliny.
Solinus.
Albertus.
Cardanus.

The head and tail of a Dragon, with the hairs of a Lion taken from between the browes, and his marrow, the froath or white-mouth of a victorious Horse, the nails of a Dog, and the nerves of a Hart and a Roe, bound up all together in a Harts skin: and this is as true as the wagging of a Dogs tail doth signifie a tempest. To leave these trifles scarce worthy to be rehearsed, but only to shew the vanity of men, given over to lying devises; let us come to the other natural and medicinal properties not as yet touched.

The flesh of these Beasts in their running time smelleth strongly like a Goats, the which thing is by *Blondus* attributed also to the flesh of the females with young, I know not how truly; but I am sure that I have known certain Noble women, which every morning did eat this flesh, and during the time they did so, they never were troubled with Ague: and this virtue they hold the stronger, if the beast in dying, have received but one wound.

The use and benefit of the flesh.

The flesh is tender, especially if the beast were libbed before his horns grew: yet is not the juice of that flesh very wholesome, and therefore *Galen* adviseth men to abstain as much from Harts flesh, as from Asses, for it engendereth melancholy, yet is it better in Summer then in Winter. *Simeon Sethi* speaking of the hot Countries, forbiddeth to eat them in Summer, because then they eat Serpents and so are venomous; which falleth not out in colder Nations, and therefore assigneth them rather to be eaten in Winter time, because the concoctive powers are more stronger through plenty of inward heat, but withal admonisheth, that no man use to eat much of them, for it will breed Palxies and trembling in mans body, begetting grosse humors, which stop the Milt and Liver: and *Avicen* proveth, that by eating thereof men incur the quartane Ague; wherefore it is good to powder them with salt before the dressing, and then seasoned with Peper and other things, known to every ordinary Cook and woman, they make of them Pasties in most Nations.

Pliny.
Solinus.
lib. 3. de alim.

The heart and brain of a Hare or Cony have the power of Triacle for expelling of evill humors, but the Liver is intolerable in food: the horns being young are meat for Princes, especially because they avoid poison. It was a cruell thing of King *Ferdinand*, that caused the young ones to be cut out of the Dams belly and baked in Pasties, for his liquorous Epicureal appetite.

The whole nature and disposition of every part of this beast is against poison and venomous things (as before recited). His blood stayeth the looseness of the belly and all fluxes, especially fryed with Oil, and the inferior parts anointed therewith, and being drunk in Wine, it is good against poisoned wounds and all intoxications.

The medicines of a Hart and his several parts.

The marrow of this beast is most approveable above other, and is used for sweet odour, against the Gowt, and heat of men in Consumptions, and all outward pains and weakness, as *Serenus* comprised in one sentence saying:

Pliny.
Dioscorides.
Solinus.

Et cervina potest mulcere medulla rigorem.

Frigoris.

Likewise

Sextus. Likewise the fat and marrow, mollifieth or disperfeth all bunches in the flesh and old swellings; all Ulcers except in the shins and legs, and with Venus-navil, the Fistula, mattery Ulcers in the ears; with Rozen, Pitch, Goose-greace, and Goat-sewer, the cleaving of the lips: and with Calves sewer the heat and pain in the mouth and jawes. It hath also vertue being drunk in warm water, to aswage the pain in the bowels and small guts, or Bloody flux.

The gall of a Bull, Oil of bayes, Butter, and this marrow, by anointing, cureth pain in the knees and loins and other evils in the seat of man, in the hips, and in the belly when it is coltive: It procureth flowers of Women, cureth the Gowt, Pimples in ones face, and Ringwormes. *Abhyrtus* prescribeth it to be given in sweet wine with wax, unto a Horse for an old Cough proceeding of cold, after purging and heating, by holding the Horses tongue in ones hand while the medicine is thrust down his throat.

Marcellus. The same in Sheeps milk with Rubrick and soft Pitch, drunk every day or eaten to your meat, helpeth the Ptsick and Obstructions. *Anatolius* approved Bean meal sifted and sod with Harts marrow to be given to a Horse which stalleth blood for three daies together. Also mingled with the powder of Oyfter shels, it cureth Kibes and Chilblanes. A woman perfumed with the hairs of this beast, is preserved from abortements; and the same perfume helpeth the difficulty of urine, and little pieces cut off from the hide with a Pumise put in wine, and rubbing the body, helpeth the holy-fire. The powder of the bones burned, is an antidote against the falling evil, and the dispersing of the milt; and the bones beaten to powder, stayeth the Flux of the belly.

It were endless to describe all the virtues ascribed to the horn, and therefore I will content my self with the recital of few. *Pliny* and *Solinus* prefer the right horn, *Aristotle* the left, and the spires or tops are more medicinable then the hard and solide stem, but the horns found in the Woods lost by the beasts and grown light, are good for nothing. The other have their uses both raw and burned, which may be these which follow.

Take the horn and cut it into small pieces, then put it into an earthen pot anointed within with durt, and so set it in a furnace untill it become white, then wash it like a mineral and it will help the runnings and ulcers in the eyes; and the same also keepeth the teeth white, and the gums sound. The young horns while they be soft being eaten, are an antidote against Henbane and other poisonous herbs. The right horn hid by the Hart in the earth is good against the poison of Toades.

Pliny. The Harts horn hath power to dry up all humors, and therefore it is used in eye salves: and *Orpheus* promisseth to a bald man hair on his head again, if he anoint it with oil and powder of this horn: likewise the same with the seed of black mirtle, Butter and Oil, restraineth the falling away of the hair being anointed upon the head after it is newly shaven: with Vinegar it killeth Ringwormes. The same burned in the Sun, and afterward the face being rubbed and washed therewith thrice together, taketh away pimple-spots out of the face: the powder drunk in wine or anointed on the head killeth lice and nits; the same with Vinegar, Wine, or Oil of Roses, anointed upon the forehead, easeth the head-ach if it proceed of cold.

Marcellus. A perfume made of this horn with *Castoreum*, and Lime or Brimstone, causeth a dead childe strangled in his mothers womb to come forth; if the horn be taken raw and rubbed upon the gums, keepeth the cheeks from all annoyance of the tooth-ach, and fasteneth the loose teeth, as *Serenus* said:

Quod vero assumpsit nomen de dente fricando

Cervino ex cornu cinis aspi.

Galen prescribeth the powder of this horn for the Jaundise, and for him that spitteth bloody matter, and to stay vomit being taken in a reere Egge. It comforteth also a rheumatick stomach, and it is tryed to cure the Kings evil, it pacifieth the milt, dryeth the Spleen, driveth all kind of Wormes out of the belly, being drunk with hony, and easeth the Colick, expelleth away mothers, helpeth the Strangury, and the pain in the bladder, stayeth Fluxes in women both white and red: being mingled with Barly meal, water, and twigs of Cedar, beside many other such properties.

The tears of this beast after she hath been hunted with a Serpent, are turned into a stone (called *Belzabard*, or *Bezabar*) of which we have spoken before: and being thus transubstantiated do cure all manner of venom (as *Avenzoar*, and *Cardinal Ponzetti* affirme) after many trials; and *Serenus* also expresseth in this Distichon:

Semineis cervi lachrymam miscere liquori

Convenit, atque artus illinc miscere calentes.

The liver of this beast helpeth all sores in the feet, being worn in the shooes, the same dried to powder with the throat or wind-pipe of the beast, and mingled with Hony, and so eaten helpeth the Cough, Ptsick, sighing and short breathing. *Pliny* and *Sextus* affirme, that when a Hinde perceiveth herself to be with young, she devoureth or eateth up a certain stone, which is afterward found either in her excrements or ventricle, and is profitable for all Women with childe and in travell, for by that only fact, the Hinde is most speedily delivered without great pain, and seldome or never suffering abortment; and there is also a little bone found in the heart of every one of these

these beasts, which performeth the same qualities, in stead whereof they have such a thing to sell at *Venice*, holding it at great price: but *Brasavola* affirmeth, that he opened the hearts of two Harts, and found in them a little gristle not much unlike to a crosse, whereof the one being of a Beast new killed, was very soft, but the other was much harder, because the beast was slain about six dayes before.

This bone is in the left side of the heart, upon which the Spleen moveth and sendeth forth her excrements by vapors, which by reason of their driness are there turned into a bone, and being first of all of the substance of the Harts blood: and it is good against the trembling of the heart, and the Hemorrhoides, but this bone cannot be found in any, except he be killed betwixt the middle of *August* and the twelfth of *September*.

The skinny feed of the Hind-Calf, is above all other commended against poison, and the bitings of Serpents and of mad Dogs; likewise it stayeth all Fluxes of blood, and spitting of blood, and egestion of blood: and it being eaten with Beets and Lentils, is profitable against the pain of the belly. The genital part and stones are wholesome (being taken in wine) against all bitings of Vipers, Adders, and Snakes, and the same virtue hath the natural seed supped up in a rere Egge.

The genital hath also a virtue to encrease lust in every creature, it being either dried and drunk, or else bound fast to their privie parts. Likewise being warmed in water, and afterward dried to powder and so drunk, helpeth the Colick, and the difficulty of making water, if you put it into a little Triacle.

The dung of Harts cureth the Dropsie, especially of a Subulon or young Hart: the urine easeth the pain in the Spleen, the wind in the ventricles and bowels, and infused into the ears, healeth their ulcers. In the tip of the tail lyeth poison, which being drunk, causeth extasie and death, if it be not helpt by a vomit made of Butter, Annise, and oil of *Sassafras*, or as *Cardinal Rotzetus* saith, that the Harts eye is an Antidote to this evill: It may be known by a yellowish-green colour, and therefore it is called the gall, for nature hath appointed that place to receive all the venom of the whole Body.

I should here end the discourse of this beast, after the method already observed in the precedents: but seeing the manner of the taking hereof (being a sport for Princes) hath yet been touched but very little, it shall not be tedious unto me, to abstain from the necessary relation of the subsequent stories, for the delightful narration of the hunting of the Hart: to the end that as the former treatise hath but taught how to know a Bird in a bush, that which insueth may declare the several wayes of catching and bringing the same to hand.

This is a beast standing amazed at every strange sight, even at the hunters bow and arrow, coming behind a stalking Horse (as is already declared:) and moreover, like as the Roes are deceived by the hissing of a leaf in the mouth of the hunter, so also is this beast, for while she hearkeneth to a strange noise, imitating the cry of a Hind-Calf, and proceeding from one man, she receiveth a deadly stroke by the other: so also if they hear any musick pipings, they stand still to their own destruction: for which cause the *Egyptians* decipher a man overthrown by flattery, by painting a Hart taken by musick: and *Varro* relateth upon his own knowledge, that when he supped in his Lordship bought of *M. Piso*, the Pastour or Forrester after supper, took but a Harp in his hand, and at the sound hereof, an innumerable flock of Harts, Boars, and other four-footed beasts came about their Cabanet, being drawn thither only by the musick; in so much as he though he had been in the *Roman Circus* or Theater, beholding the playing spectacles of all the *African* beasts, when the *Ædilian* Officers have their huntings: the like is also reported by *Ælianus*, saying that he addeth, that no toil or engine is so assured or unavoidable to draw these beasts within a labyrinth as is musick, whereby the Hunter getteth as it were the Hart by the ear, for if through attention he hold down his ears as he doth in musick, he distrusteth no harm, but if once he prick up his ears as he commonly doth, being chased by men and dogs, an infinite labour will not be sufficient to overtake and compass him. It is reported that they are much terrified with the sight of red feathers, which thing is affirmed by *Ausonius* in these Verses:

*An cum fratre vagos dumeta per avia cervos
Circundas maculis, & multa indagine pennæ.*

And *Ovid* also saying,

Nec formidatis cervos includite pennis.

And *Lucan* also;

*Sic dum pavidos formidine cervos
Clandat odorata metuentes aera pennæ.*

Of which thing the Hunters make an advantage, for when they have found the beast, they set their nets where they imagine the beast will flie, and then one of them sheweth to the beast on the other side, the red feathers hanging on a rope, which scareth them in haste into the Hunters nets, *Xenophon*.

Ælius.

Platerias.

Of the hunting and taking these beasts.

Horus.
An hieroglyphical emblem.

Ælianus.

*umbra metui-
tur ab infanti-
bus, a feris ru-
bens penna.*

as S. Jerom testifieth in one of his Dialogues, saying, *Et pavidorum more cervorum, dum vanos pennarum evitatis volatus, fortissimis retibus implicamini.* And you, saith he, (speaking to the Luciferian hereticks) run away from the vain shaking of feathers, like the fearfull Harts, while in the mean time you are inelapsd in unavoidable and inextricable nets. And this caused Seneca to write, that the babe feareth a shadow, and wilde beasts a red feather.

Many times the young Calf is the cause of the taking of his Dam: for the Hunter early in the morning before day light, watcheth the Hinde where she layeth her young one, untill she go and refresh her self with pasture; when he hath seen this, then doth he let loose his Dogs, and maketh to the place where the Hind-Calf was left by his mother.

The silly Calf lyeth immoveable as if he were fastened to the earth, and so never stirring, but bleating and braying suffereth himself to be taken, except there be rainy weather, for the impatience of cold and wet will cause him to shift for himself: which if it fall out, the Dogs are at hand to overtake him, and so being taken is committed to the keeper of the nets.

The Hinde both hearing and seeing the thralldom of her poor son, cometh to relieve him, without dread of Hound or Hunter, but all in vain, for with his dart he also possesseth himself of her; but if the Calf be greater, and so be able to run with the Dam among the herds, they are most hard to be taken, for in that age they run very fast, and the fear of Dogs increaseth their agility, in so much as to take them among the herds is impossible, every one fighting for them.

But the only way is to single one out of them from the flock, and so follow him until he be weary, for although he be very nimble, yet by reason of his tender age, his limbes are not able to continue long. The elder Harts are taken in snares and gins laid in ditches and covered with leaves, whereby the feet of this beast is snared in wood; this kind is described by Xenophon and Pollux, and is called in Greek, *Podestrabe*; in Latin, *Pedica*, of which also the Poets make mention, as Virgil:

Tunc gruibus pedicas & retia ponere cervis.

And this kind is better described by Gratius, with whose words I will passe it over as a thing out of use.

Nam fuit & laqueis aliquis curracibus usus.

Cervino issere magis contere nervo,

Quidque dentatas iligno robere clausit:

Sape habet imprudens alieni lucra laboris,

Fraus tegit insidias habitu mentita ferino

Venator pedicas, cum dissimulantibus armis.

Their manner is when they are chased with Dogs to run away with speed, yet oftentimes stand still and look back, not only to hearken to the hunter, but also to rest themselves, for in their chase they are ever troubled in their belly (as is before declared) and sometime they grow so weary, that they stand still, and are pierced with arrows, sometime they run till they fall down dead, sometime they take themselves to the water and so are refreshed, or else to avoid the teeth of Dogs, they forsake the dry land, and perish in the floods, or else by that means escape scotfree: wherefore it must be regarded by every good hunter to keep him from the waters, either among the woods or other rough places.

Albertus.

But herein the subtilty of this beast appeareth, that when he is hunted, he runneth for the most part to the high wayes, that so the favour of his steps may be put out by the treadings of men, and he avoid the prosecution of the Hound. Their swiftnesse is so great, that in the Champaine and plain fields they regard not Dogs, for which cause in France they poison Arrows with an herb called *Zenicum* or *Toca*, and it is a kinde of *Aconite* or Wolfe-bane, which hath power to corrupt and destroy agility of body, and to stay celerity, and for their hunting in France by Dogs, it is most excellently described by Budaus and Robertus Stephanus in his French Dictionary.

This wilde, deceitful and subtil beast, (say they) by windings and turnings do often deceive their hunter, as the Harts of *Meandros* flying from the terrible cry of *Dianaes* hounds, wherefore the prudent hunter must frame his Dogs, as *Pythagoras* did his Scholars, (*Luvers qui ne parlent point*) with words of Art, to set them on, and take them off again at his pleasure; wherefore he must first of all compass in the beast, (*En son giste*) in her own lodging, and so raise her up in the sight of the Dogs, that so they may never lose her footing.

Neither must they set upon every one, either of the herd, or that wandereth solitary alone, nor yet a little one, but partly by aspect or sight, and partly by their footings in the soft earth, and also by their dung (*Les fumees*) they judge of their game, for a good Woodman must not stick to gather up the Deers excrement or soil, and keep them (*La trempe*) in his hunting horn: such things must the Kings huntsmen and forresters observe, as also the quantity of his bed or lodging when they finde it; being thus informed of their game, then (*Discoppler les chiens*) they take off their Dog couplings, and some on horseback, other on foot follow the cry with greatest art, observa-

tion,

tion, and speed, remembring and preventing (*Cer fruze*) the subtle turnings, and headings of the Hart, straining with all dexterity to leap hedge, pale, ditch, and rocks; neither fearing thornes, woods, down-hills, but providing a fresh horse in case the first tire, (*Chevaux de relais*) and leaping on him with speed, untill he see (*un grand cerf l'escuyer du grand cerf*) the great Hart having ten speers on his horns, and his little squire-hart to attend him, which the Dogs once perceiving, only follow the great Hart, taking for a prohibition to follow any other.

The Dogs are animated by the winding of horns, and voices of the hunters, like Souldiers to a battel by the voice of a trumpet and other instruments: but sometimes the crafty great beast sendeth forth his little squire to be sacrificed to the Dogs and Hunters in stead of himself, lying close in the mean time, then must the retreat be sounded, and (*Rompres le chiens*) the Dogs be broken off and taken in (*Le limier*) that is, leame again untill they be brought to the fairer game, who ariseth in fear and rage, betaking himself to his surest legs, being pursued with all the cries of Hunters, ringing and echoing betwixt heaven and earth, dismayng him with the continual noise in his eares, no lesse dreadful and fearful then the voice of a passing bell to a sick man, or the sight of the executioner to a condemned carcase, yet still he striveth untill wearied and breathless, he be forced to offer up his blood and flesh to the rage of all the observant pedissequants of the hunting Goddess *Diana*.

The vulgar sort call an old Hart a subtil and cunning beast, but the Nobles call him (*cerf sage*) a wise Hart, who to avoid all his enemies runneth into the greatest herds, and so bringeth a cloud of error upon the Dogs, to keep them from any further prosecution: sometime also beating of some of the herd into his own footsteps, that so he may more easily escape and procure a labyrinth to the Dogs, and then after a little while he betaketh himself to his heels again, running still with the wind, not only for refrigeration, but because he may the more easily hear the voice of his pursuers, whether they be far or neer.

At last, being (for all this) found out again by the observance of the hunters, and skill of the Dogs, he flyeth into the herds of Cattel, as Kie, Oxen, or Sheep, leaping upon an Ox, and laying his body or the fore-part thereof upon him, as a rider upon a Horse, that so touching the earth only with his hinder hoofs, to leave a very small or no sent at all behind for the Hounds to discern.

The chief huntsman or sergeant of the hounds unto *Lewis* the twelfth, called (*Le grand veneur*) affirmeth that on a time they having a Hart in chase, suddenly the Hounds fell at a fault, so as the beast was out of sight, and not a Dog would once stir his foot; whereat all the Hunters were amazed, like as in some juggling *Apollonian* trick, as though the hart had clean forsaken the earth, and with the wings of some fowl had been flown away; or as if the earth had opened her mouth to receive him into her protection, and had closed again over her head, or else some Witchcraft had cast a mist before the Dogs and Hunters eyes: At last by casting about (as it is usuall in such cases) they found the fraud of the horned beast, which is worth the memory.

There was a great white-thorne which grew in a shadowie steep place as high as a tree, and was invironed with other small shrubs about it, into the which the said Hart leapt, and there stood aloft the boughs spreading from one another, and there remained, whether because he could not get off again, or else for that he was stifled in that place, but surely he was there thrust through and so died, and so had they all rather perish any other way then by the teeth and tearing in pieces of angry and greedy Hounds.

Yet their manner is, that when they see themselves every where intercepted, to make force at him with their horns that cometh first unto him, except he be prevented by some sword or spear; which being done, the Hunter with his horn soundeth the fall of the beast, and then every one approacheth, luring with triumph for such a conquest, of whom the skilfullest openeth the beast, giving unto the Hounds such parts as belongeth to them, for their encouragement against another time; and for that purpose the Hunters dip bread in the skin and blood of the beast, to give unto the Hounds their full satisfaction: and many such other things may the reader desirous of this knowledge find in the Authors aforesaid, to whom I will commend him rather, then spend more time in this business, better manifested by experience, then by any written document, yet I would wish men to be sparing in this exercise, seeing it hath been seldom found that a man given to hunting, but he perished in his pleasure, as *Aleon* did by his own Dogs: and therefore *Alciatus* doth fitly compare together hunters and receivers of Theeves and Robbers, calling them new *Aleons*; who after they had received horns, must be destroyed by their own Dogs which they have nourished. The best use of these beasts is to keep them tame, as in *Helvetia*, where they hunt seldom, and to make good use of them for nourishment rather then for sport, as it is reported of a holy-man, who kept a Hinde so familiar with him, that in the Wilderness he lived upon her milk.

Concluding this discourse with the words of the Poet, for the instruction of Dogs to this pastime and practise of the beasts.

*Veloces Sparte catulos, acremque molossum,
Pasce fero pingui, &c.*

And again;

Montesque per altos
Ingentem clamore preme ad retia cervum.

Conferetque agmine cervi

Torquent mole nova, & summis vix cornibus extant.

Hos non immittis canibus, non cassibus ullis,

Puniceæve agitent pavidos formidine perna:

Sed frustra oppositum trudentes pectore montem

Comminus obtruncant ferro, graviterque rudentes

Cadunt, & magno læti clamore reportant.

Of the *DYCTYES*.

Herodotus in his fourth book affirmeth, that among the *African* Shepherds toward the East, there are bred in *Bassaria* *Hystriches* wilde Rams, *Thoes* and *Dyctyes*, of which last there is not any mention among all other writers, except in *Varinus* and *Helychius*, who affirm that among the *Lacedemonians* a Glead or Kite was called *Dyctin*, but this spoken of *Herodotus* I conjecture to be some four-footed beast, being led with no other reason then that the other with whom he placeth it, are generally known to be creatures of that kind and nature: wherefore I thought good to express the name of it in this place, desiring the Reader to accept so much thereof as is already known, and to search farther for the description of it, at the hands of them who are eye-witnesses of the wonders of *Africa*.

Of the *DOG* in general.

The name and derivation thereof.

A Dog is called in *Hebrew*, *Keleb*, and *Lamas* according to *Manster*; in *Chalde*, *Kalba*; in *Arabick*, *Kalbe*; in *Persia*, *Sag*; the *Saracens*, *Kep*, or *Kolph*; the *Grecians* *Kyon* because of his love to man, and vulgarly at this day *Skilos* and *Skule*; the *Medians*, *Spaco*; the *Germans*, *Hund*; the *Italians*, *Cane*; the *French*, *Chien*; the *Spaniards*, *Perro* or *Cavendo*, because his barking is as loud as an Artificial song, also *Catellus*; the *Illyrians*, *Per* or *Pas*; and the *Latins*, *Canis*.

There

There is no region or Countrey in the world, where these are not bred in some store, as shall be declared afterward in the particular discourse of every kinde of Dogs. For as shall be manifested more at large, there are Dogs very great, some for hunting, some for War and defence, some for the Boar, Bull, or Bear, some for the Hare, Cony, or Hedge-hog: again some are smaller which are called Hounds, Braches, Beagles, Shepherds Dogs, House-curs, Spagnels both for the Water and Land; and some foisting Dogs for the pleasure of the rich.

In the first place there are to be handled the nature of Dogs in general, wherein they agree, and their common properties of nature, such as are not destroyed in the distinction of kinds, but remain like infallible and invariable truths in every kind and Countrey of the world. To begin with that which is outward, it is to be observed that Dogs are generally rough, and their hair indifferently long (which in Winter they lose every year) is a signe of a good constitution; but if it grow over long, the mangie scab will follow: the outward proportion of the head altereth as the kind altereth, being sometime like a Lion, sometime like a Hedge-hog, some long with a broad snout, and sometime with a piked snout, but the brain decreaseth and increaseth with the Moon, there is no commissure or seam in his skull (like as is in a Mans) but it is a continued bone without separation inward or outward.

The best Dogs have flat nostrils, yet round, solid and blunt, the mouth is long and slit, their teeth like saws, as it is in Fishes and Serpents: those which are called *Canine* before, are only changed, as it also falleth out in a Lion, and these they lose or change, both males and females, in the fourth moneth of their age: about which time they have new ones come forth to thrust off their old. By their teeth is their age discerned, for while they are white and sharpe, it assureth the youth of a Dog, but when they grow blackish, or duskie, they betoken the elder age.

The breast of a Dog is narrow and piked, his ventricle small and narrow, for which cause he never easeth his bodily excrements without pain, his bowels are like a Lions: he hath a long spleen like a Man, and a Hog: his yard and stones hang outward between his hinder-legs; a base natured cur striketh his tail betwixt his legs; his forelegs bend like the armes of a man, and he useth them in stead of Armes, having five distinct fingers, commonly called claws upon each foot before, and four upon each foot behind, which also have straight nails upon them, and that which hangeth higher upon the leg is crooked.

The females, because they bring forth many whelps at a time, have underneath their bellies great paps, with many speans to suck at, in a double rank or row on both sides, and the generous Bitches have 12. other but 10. They bear their young within their belly next to the midriffe, their fume is dry like a Wolves, and thereby his temperament is known to be hot and dry, considered in it self, but compared with others it varyeth, for to a Mans, it is dry; to an Emmets, it is moist: again, in respect of a Man, it is hot; in respect of a Lion, it is cold.

The lower and shriller voice of a Dog, is called barking, the lower and stiller, is called whining, or fawning. It was a monstrous thing, that a Dog should speak, and a Serpent bark, as it is believed in antiquity both came to passe, when *Tarquinus* was driven out of his kingdom. It is not causeless that the barking of Dogs, hath attributed unto it divers qualities, as for a man to dream of the same, presageth some treasonable harm by enemies; so likewise if they fawn and claw upon a man.

Among the precedent tokens of *Cæsars* death, they set down in certain Verses, the howling voices of Owls, the weeping drops of the Ivie tree, and the continual barkings of Dogs, as followeth.

*Tristia mille locis Stygius dedit omina bubo,
Mille locis lacrymavit ebur
Inque foro circumque domos & templa deorum
Nocturnos ululasse canes, &c.*

The Egyptians signifie these things by a Dog, a Scribe, a Prophet, a Spleen, smelling, laughing, and neezing. A Scribe, because as the Dog is silent more then he barketh, so must a perfect Scribe meditate more then he speaketh: for to bark at every one were to pleasure none, and to speak continually, were a signe of madness. Again, a Prophet, because a Dog doth most eagerly behold, and admire constantly at holy actions, and so ought the eyes and eares of a Prophet be attendant upon heavenly things. The Spleen, because a Dog hath little or no spleen, and thereof cometh his madness and death; whereof also it cometh that the servants which have the charge of Dogs, being with them in their sickness and latter end, for the most part prove Splenetick. Smelling, Neezing, and Laughing, because the Splenetick can do none of all these; but of this more afterward.

The voice of a Dog, is by the learned interpreted a railing and angry speech; whereof cometh *Canina facundia* among Authors, for railing eloquence. It is the nature of a Dog when he maketh water, to hold up his leg, if he be above six moneths old, or have been at procreation; the females do it for the most part, sitting, yet some of the generous spirits do also hold up the legs. They ever smell to the hinder parts of one another; peradventure thereby they discern their kind and disposition of each other in their own natures. After they have run a course, they

The countries
and diversities
of Dogs.

The general
nature of Dogs

Their outward
parts.

Aristotle.

Albertus.

A secret in the
brain.

Pliny.

Aristotle.

Pliny.

Aristotle.

Blondus.

Pliny.

The parts of a
female Dog.

Galen.

The voice of
Dogs.

Puny.

Artemidorus.

Oras,
Emblematical
description.

The making of
urine.

Aristotle.

Pliny.

Albertus.

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The factions of
Dogs for their
own ease.

The sleep of
Dogs.

Their copula-
tion and ly-
ming.

Columella.

Aristotle.

Tardius.

The time of
Bitches whelp-
ing and bear-
ing her young.

Aristotle.

Aristotle.

The first whelp
is a male.

The blindness
of Whelpes.

Ælianus.
A secret in
their food.

relieve themselves by tumbling and rowling to and fro: when they lie down, they turn round in a circle two or three times together, which they do for no other cause, but that they may the more commodiously lie round, and from the winde.

They sleep as doth a man, and therein dream very often, as may appear by their often barking in their sleep: but it must be diligently regarded of them that love to keep Dogs, that they permit them not to sleep much, especially after their meat when they are yong, for as they are very hot, so in their sleep doth their heat draw much pain into their stomach and ventricle. The time of their copulation is for the most part at a year old, yet the females will lust after it at eight moneths old, howbeit they are not to be suffered, because it weakeneth their bodies, and dulleth in them all generosity; therefore after one year they may safely be suffered to come together, and not before. Neither is it material, whether in Summer or Winter, but it is best in the beginning of the Spring, but with this caution, that Whelpes of a litter or of one and the same Bitch, be never suffered to couple; for nature rejoiceth more in variety.

For then they grow salt and begin to be proud; yet in ancient time, for the more ennobling of their race of Dogs, they did not suffer them to engender till the Male were four year old, and the female three; for then would the Whelpes prove more strong and lively. By hunting, labour and travel, the males are made more fit for generation, and they prove best which have their fires of equal age. They are not suffered to engender all their life long, but untill ten and twelve year old, or rather eight in the male, and six in the female. Yet there have been found which in one and other sex, have continued in procreation till they were twenty year old, but this exceeded all natural reason. When they begin to be proud, if you give them leaven mingled with milk and salt, they will not stray and range abroad. At the time of their copulation, they cleave together for a certain space, as if their hinder parts were glewed, and so they are filled at one time. They bear their young the fifth part of the year, that is, about two moneths and odd dayes; but this reckoning is not general, for some kinds bear their young three moneths, and some more. They bring forth many at a time, sometime five, seven, nine, or twelve, for so many cels hath the female in her womb.

Albertus relateth that he saw a Bitch of the Mastive kind, which brought forth at three litters fifty Whelpes, that is nineteen at the first, eighteen at the second, and thirteen at the third: but sometime she bringeth forth but one, which is a good argument to prove that she is filled at the first liming. They are purged of their menstruous fluxes seven or fourteen daies before they grow proud, and again, at their time of littering; at other times they suffer none.

The first they cast forth of their wombe is commonly a male, which resembleth the father, the other males and females as it happeneth, (but it is accounted a prodigious thing to litter all males or all females) wherein nature yeeldeth an excellent argument of divine providence, for the first born of all kinds hath more resemblance of the father then of the mother. They are also whelped blind, and so remain for nine or ten dayes, because through their multitude they cannot be perfected in the dams belly, which doth not happen to beasts which bear single, as Sheep and Goats. They use to carry them up and down in their mouths till they be seven dayes old, but not afterward, they have milk about five dayes before their littering. It is not good to preserve the first or second litter, but the third; and after they have littered it is good to give the Bitch Whay and Barly bread, for that will comfort her and encrease her milk; and in some places they take Goats milk and see the in it broken bones of meat, whereby they conceive that the Dam and Whelpes are much bettered for that nutriment: there is not any great regard of the nourishment of Dogs, for they will eat much and that often and divers things, except Dogs flesh, for that cannot be so dressed and prepared by the art of man, but they finde it out by their nose and avoid it. It is good to let the Whelpes suck two moneths before they be weaned, and that of their own dam, for it is not so good for them to suck another, and in the mean time exercise them to meat, as Milk, Whay, Bread, and flesh; also from the Spring untill the Sun entreth Cancer, at which time it is good to let them grow lean according to the Verses of Nemesian.

Consuetam minuisse saginam
Profuerit, tenuesque magis retinere cibatus,
Ne gravis articulos depravet pondere molles.
Nam tum membrorum nexus nodosque relaxant.

And afterward when they are fixe moneths old amend their diet again that they may grow strong.

Tunc rursus miscere sero Cerealia dona.
Conveniet, fortemque dari de frugibus escam.

Tardius.

Æthens.

They will not eat Buck-mast wherewithal Hogs grow fat, for that breedeth in them the pain of the head. By eating the excrements of men they incur many diseases: they are mad drunk by the herb Oenutta, as Crowes bee; they cannot endure Wine, but bread sopped in wine they devour, dried flesh and bread in Milk is their safest food; if Cummin be now and then mixed in their bread, they are not much troubled with winde in their bellies. If you put a little Oil in their Water to drink

drink or lap, they will prove more able and swift to run. If he refuse and loath his meat, take a little hot bread and give it him before meat, or dip brown bread in Vinegar, and so presse and squeeze the liquor thereof into his nose, and it will ease him.

A remedy for loathing meat.

There is much ado to chuse a Whelp under the Dam that will prove the best in the litter. Some observe that which seeth last, and take that for the best; other remove the Whelpes from the kennel and lay them severall and apart one from the other, then watch they which of them the Bitch first taketh and carryeth into her kennel again, and that they take for the best; or else that which vomiteth last of all. Some again give for a certain rule to know the best, that the same which weigheth least while it sucketh will prove best according to the Verses of *Nemesian*.

Of the choise of a generous whelp.

*Pondere nam catuli poteris pendere vires,
Corporibusque leves gravibus pernoocere cursu.*

But this is certain that the lighter whelp will prove the swifter, and the heavier will be the stronger. Other make this experiment, first they compass in the Puppies in the absence of the Dam with a little circle of small sticks apt to burn, and stinking rags, then set they them on fire about the whelpes, and that Puppy which leapeth over first they take for the best, and that which cometh out last they condemn for the worst. As soon as the Bitch hath littered, it is good to chuse them you mean to preserve, and to cast away the refuse; keep them black, or brown, or of one colour; for the spotted are not to be accounted of. And thus much of the outward parts and the choise of Dogs. The manifold attributes of Dogs among all Writers, do decipher unto us their particular nature; as that they are called sharp, bitter, fierce, subtil, founding, bold, eared for attention, affable, swift, speedy, clamorous, wilde, faithful, horrible, rough, fasting, cruell, ungentle, unclean, hurtful, biting, filthy, smelling, sent-follower, watchful, mad, hoarse, and quick-nosed; beside many such other both among the *Greeks* and *Latins*. And likewise you shall read of many particular Dogs, and their names appellative, both in *Greek* and *Latine*, which may be remembered also in this place, to shew what reckoning all ages have made of this beast; for it is necessary, that as soon as he beginneth to feed he presently receive a name, such are these, of two syllables or more, as *Scylax*, *Speude*, *Alke*, *Rome*, *Lacon*, *Acalanthis*, *Agre*, *Labros*, *Hylactor*, *Alleus*, *Argus* (one of *Ulysses* Dogs) *Asbolus*, *Augeas*, *Aura*, *Bria*, *Polis*, *Bremon*, *Kainon*, *Canache*, *Happarus*, *Charon*, *Chorax*, *Harpia*, *Lycitas*, *Chiron*, *Lycisca*, *Arcas*, *Dromas*, *Gnome*, *Eba*, *Hybris*, *Hyleus*, *Maira*, *Melampus*, *Orne*, *Lethargos*, *Nape*; besides infinite other among the antients; but among the latter writers, *Turcus*, *Niphus*, *Falco*, *Ragonia*, *Serpens*, *Ichtiâ*, *Pilaster*, *Leo*, *Lupus*, *Stella*, *Fulgur*, *Bellina*, *Rubinum*, *Satinus*, and *Furia*: so that every Nation, and almost every man hath a proper and peculiar name for his Dog, as well as for his Oxe.

Tardinius.

Of the nature and inward qualities of Dogs.

There is not any creature without reason, more loving to his Master, nor more serviceable (as shall appear afterward) then is a Dog, enduring many stripes patiently at the hands of his Master, and using no other means to pacifie his displeasure, then humiliation, prostration, assentation, and after beating, turneth a revenge into a more fervent and hot love. In their rage they will set upon all strangers; yet herein appeareth their noble spirit, for if any fall or sit down on the ground and cast away his weapon, they bite him not; taking that declining for submissive pacification. They meet their Master with reverence and joy, crouching or bending a little, (like shamefast and modest persons:) and although they know none but their Master and familiars, yet will they help any man against another Wilde beast. They remember voices, and obey their leaders hissing or whistling.

Of the love of a Dog.

Pliny.

Plutarch.

Homer.

A secret to pacifie an angry Dog.

Ælianus.

There was a Dog in *Venice* which had been three years from his Master, yet knew him again in the Market place; discerning him from thousands of people present. He remembreth any man which giveth him meat: when he fauneth upon a man he wringeth his skin in the forehead. The Dog which is broad faced like a Lion, is most full of stomach and courage; yet the tongue or skin of an *Hyena* (by natural instinct) maketh him run away: sometimes they will agree with Wolves, for they have engendered together, and as the Lute strings made of a Wolfe and a Lambe cannot agree in musick, but one of them will break, so also will a Dogs and a Lambs.

A history of a Dogs memory.

Gillius.

Kirander.

A secret in the fear of a Dog.

Ælianus thiuketh that Dogs have reason, and use Logick in their hunting, for they will cast about for the game, as a disputant doth for the truth, as if they should say either the Hare is gone on the left hand, or on the right hand, or straight forward, but not on the left or right hand, and therefore straight forward. Whereupon he runneth forth right after the true and infallible footsteps of the Hare. There was a Dog in *Africa* in a ship, which in the absence of the Mariners came to a pitcher of oil to eat some of it, and the mouth of the pot being too narrow for his head to enter in (because the pot was not full) he devised to cast flint stones into the vessel, whereby the Oil rose to the top of the Pitcher, and so he eat thereof his fill, giving evident testimony thereby, that he discerned by nature, that heavy things will sink down, and light things will rise up and flie aloft.

The reason of Dogs.

There is a Nation of people in *Ethiopia* (called *Nube*) which have a Dog in such admirable estimation, that they give unto him the honor of their King; for they have no other King but he. If he faun, they take him for well pleased; if he bark or flie upon them, they take him for angry: and by his

Solinus.

Ælianus.

gestures

Pliny.
Giraldus.
The honour
done to Dogs.

gestures and movings they conjecture his meaning, for the government of their state: giving as ready obedience to his significations, as they can to any lively speaking Prince of the world: for which cause the Egyptians also picture a Dog with a Kings robe, to signifie a Magistrate. Those people of Egypt also, observe in their religious processions, and gesticulations, dumb-idle-gods, to carry about with them two Dogs, one Hawk, and one Ibis, and these they call four letters: by the two Dogs, they signifie the two Hemispheres which continually watch and go over our heads: by the Hawk, the Sun; for the Hawk is a hot creature, and liveth upon destruction: by the Ibis, the face of the Moon; for they compare the black feathers in this bird to her dark part, and the white to her light. Other by the Dogs, do understand the two Tropicks, which are (as it were) the two porters of the Sun for the South and North: by the Hawk, they understand the Equinoctial or burning line, because she flyeth high: by the Ibis, the Zodiack: and indeed those Painters which could most artificially decipher a Dog (as *Nicias*) were greatly revered among the Egyptians.

Cælius.

The like folly (or impious beastliness) was that of *Galba*, who forsook the precedents of his predecessors in stamping their coin with their own image, and imprinted thereupon his sealing ring left him by his forefathers, wherein was engraven, a Dog bending upon his female. I know not for what cause, the Star in the midst of Heaven whereunto the Sun cometh about the Calends of July, was termed *Canis* (a Dog) and the whole time of the appearance of that Star, which is about thirty dayes, should be called *Dog-dayes*; but only because then the heat of the Sun doth torment the bodies of men twice so much as at other times: whereupon they attribute that to the Star (which they call *Sirius*) which rather is to be attributed to the Sun during that time every year.

Varinus.

Others fable, that there is another Star close to him (called *Orion*) who was an excellent hunter, and after his death was placed among the Stars, and the Star *Canis* beside him was his hunting Dog: but by this Star called of the Egyptians, *Solachim*; and of the Grecians, *Astrocynon*, cometh that Egyptian Cynick year which is accomplished but once in 1460 years. Unto this Star were offered many sacrifices of Dogs in ancient time, whereof there can be no cause in the world, as *Ovid* well noteth in these Verses.

Hesychius.
Arnobius.

*Pro Cane sidereo Canis hic imponitur ara:
Et quare fiat nil nisi nomen habet.*

Pliny.

As among the *Carians*, whereupon came the proverb of *Caricum Sacrificium*, for they sacrificed a Dog in stead of a Goat, and the young puppies or whelpes were also accounted amongst the most available sacrifices, for the pacifying of their Idoll gods.

Plutarch.

The Romans and Grecians had also a custom to sacrifice a Dog in their *Lyceæ* and *Lupercal* feasts, which were kept for the honour of *Pan*, who defended their flocks from the Wolf, and this was performed in February yearly, either because that the Dogs were enemies to Wolves, or else for that by their barking, they draw them away in the night time from their City: or else, because they reckoned that a Dog was a pleasing beast to *Pan*, who was the keeper of Goats: so also the Grecians did offer a Dog to *Hecate* who hath three heads, one of a Horse, another of a Dog, and the third head in the midst of a wilde man: and the Romans to *Genetha*, for the safe custody and welfare of all their household affairs.

Their household Gods (called *Lares*) were pictured and declared to the people sitting in Dogskins, and Dogs sitting besides them, either because they thereby signified their duty to defend the house and household: or else as Dogs are terrors to Theeves and evill beasts, so these by their assistance were the punishers of wicked and evill persons: or rather that these *Lares* were wicked spirits prying into the affaires of every private household, whom God used as executioners of his wrathful displeasure upon godless men.

Festus.

Cælius.

There were Dogs sacred in the Temple of *Æsculapius*, because he was nourished by their milk; and *Jupiter* himself was called *Cynegetes*; that is, a Dog-leader; because he taught the *Arcadians* first of all to hunt away noisome beasts by the help of Dogs: so also they sacrificed a Dog to *Mars*, because of the boldness of that creature. To conclude, such was the unmemorable vanity of the Heathens in their gods and sacrifices, as it rather deserveth perpetuall oblivion then remembrance, for they joyned the shapes of men and beasts together (saith *Arnobius*) to make gods, *Omni genumque deum monstra & lator Anubis*, such were their *Cynocephali*, *Ophiocephali*, *Anubis*, *Hecate*; that is as much to say, as half Men, half Dogs, half Serpents, but generally all Monsters: and for the many imaginary virtues the ancients have dreamed to be in Dogs, they also in many places have given unto them solemn funerals in their hallowed Cemiteries, and after they were dead they ceased not to magnifie them, as *Alexander*, which built a City for the honour of a Dog.

Arnobius.
Gyraldus.

Of dishonour
and ignobility
of Dogs.

All this notwithstanding, many learned and wise men in all ages have reckoned a Dog but a base and an impudent creature: for the *Flamen Dialis* of *Jupiter* in *Rome*, was commanded to abstain from touching of Dogs, for the same reason that they were prohibited and not permitted to enter into the Castle of *Athens*, and Isle of *Delos*, because of their publick and shameless copulation: and also that no man might be terrified by their presence from supplication in the Temples. The foolishness of a Dog appeareth in this, that when a stone or other thing is cast

at him, he followeth the stone and neglecteth the hand that threw it, according to the saying of the Poet:

Arripit ut lapidem catulus, morsuque fatigat,

Nec percussori mutua damna facit;

Sic plerique sinunt vexos elabier hostes,

Et quas nulla gravant noxia, dente petunt.

Marcellus.

Likewise men of impudent wits, shameless behaviors in taking and eating meat, were called *Cynicks*; for which cause *Athenus* speaketh unto *Cynicks* in this sort, You do not O *Cynici* lead abstinent and frugal lives, but resemble Dogs: and whereas this four-footed beast differeth from other creatures in four things, you only follow him in his viler and baser qualities, that is, in barking and license of railing, in voracity and nudity, without all commendation of men.

Porphyrius.

The impudency of a Dog is eminent in all cases to be understood, for which cause that audacious *Aristogiton* son of *Cidimachus* was called a Dog, and the Furies of ancient time were pictured by black Dogs, and a Dog called *Erinnys*: *Cerberus* himself with his three heads signified the multiplicity of Devils; that is, a Lions, a Wolfs, and a fawning Dogs; one for the Earth, another for the Water, and the third for the Air: for which cause *Hercules* in slaying *Cerberus*, is said to overcome all temptation, vice and wickedness, for so did his three heads signifie. Other by the three heads understand the three times; by the Lion the time present; by the Wolf, the time past; and by the fawning Dog, the time to come.

Homer.

Horace.

It is delivered by Authors, that the root of Oliander, or else a Dogs tooth bound about the arme, do restrain the fury and rage of a Dog: also there is a certain little bone in the left side of a Toade (called *Apocynon*) for the virtue it hath in it against the violence of a Dog. It is reported by *Pliny*, that if a live Rat be put into the pottage of Dogs, after they have eaten thereof, they will never bark any more; and *Aelianus* affirmeth so much of the Weasils tail cut off from him alive, and carryed about a man; also if one carry about him a Dogs heart or liver, or the skin wherein Puppies lie in their dams belly (called the *Secundine*) the like effect or operation is attributed to them against the violence of Dogs.

Constantinus.

There is a little black stone in *Nilus* about the bigness of a Bean, at first sight whereof a Dog will run away. Such as these I saw at *Lyons* in *France*, which they called Sea-beans, and they prescribed them to be hanged about a Nurses neck to encrease her milk. But to conclude the discourse of the baseness of a Dog, those two proverbs of holy Scripture, one of our Saviour *Mat. 7. Give not that which is holy to Dogs*; and the other of *St. Peter*, 2 Epistle Chap. 2. The Dog is returned to the vomit; do sufficiently convince, that they are emblems of vile, cursed, rayling, and filthy men; which esteem not holy things, but eat up again their own vomits.

Stobaeus.

The skins of Dogs are dressed for Gloves, and close Boots, the which are used by such as have Ulcerous and swelling Legs or Limbs, for by them the afflicted place receiveth a double relief; first, it resisteth the influent humors; and secondly, it is not exasperated with Woollen. The *Turkes* colour their Dogs tails with red, and it is a custom of Hunters to take Dogs and tie them in the Woods unto trees by their stones, for by crying they provoke the Panther to come unto them.

The use of their parts.

Blondus.

Oppianus.

The flesh of Dogs eaten.

It is not to be doubted but that the flesh of Dogs is used for meat in many places, although the opinion of *Rafis* be true and consonant to reason, that all devouring creatures, as Dogs, Foxes, and Wolves, have no good flesh for meat, because they engender melancholy; and yet *Galen* thinketh, that it is like to the flesh of a Hare, especially young Whelpes were held among the *Romans* a delicate meat, and were used by their Priests; and among Whelpes they attributed most virtue to their flesh which were eaten before they did see, for by them came no evil humor at all, as is often set down in *Plinius*. *Peter Martyr* and *Scaliger* do affirm of *Cozumella* and *Lucatana*, and other Islands of the new World, that the people there do eat a kind of Dog which cannot bark: These Dogs are vile to look upon like young Kids. The inhabitants of *Corfica*, which are fierce, angry, wilde, cruell, audacious, dissemblers, active and strong, do also feed upon Dogs, both wilde and tame: and it is thought that their meat is a little furtherance to their inclination, for such is the natural disposition of Dogs. And *Scutigerus* in the Book of Peregrinations affirmeth also, that the *Tartarians* in *Ibissibur* do after the same manner feed upon the flesh of Dogs: from hence it cometh that men resembling a Dog in a plain forehead and narrow, are said to be foolish; in a smooth and stretched out flatterers; those which have great voices like a Ban-dog, are strong; they which rail much (like often barking Dogs) are of a doggish, angry disposition. He that hath a great head like a Dog, is witty; he which hath a little head like an Asses, is blockish; they which have fiery eyes like Dogs, are impudent and shameless: thin lips with narrow folding corners, in Dogs is a token of generosity, and in men of magnanimity: they whose teeth hang over their canine teeth, are also adjudged railers, and virulent speakers: and as *Carnarius* observeth, vain glorious braggarts. A wide mouth, betokeneth a cruell, mad, and wicked disposition; a sharpe nose, an angry minde; as a round, blunt, and solid Nose, signifieth a Lions stomach and worthiness. A sharpe chin, vain babling and wantonness; they which are small in their girding head about their loins, do much love hunting.

Admantius.

Munsterus.

Stobæus in his wicked discourse or dispraise of Women affirmeth, that the curst, sharp, smart, curious, dainty, clamorous, implacable and wanton-rowling-eyed Women, were derived from Dogs: and Hesiod to amend the matter saith, when Jupiter had fashioned Man out of the earth, he commanded Mercury to infuse into him a Canine minde, and a clamorous inclination: but the Proverb of Solomon Chap. 30. concludeth the excellency of a Dog saying, *There be three things which go pleasantly, and the fourth ordereth his pace aright: The Lion which is the strongest among beast, and feareth not the sight of any body: a hunting Dog strong in his loins, a Goat, and a King against whom there is no rising up:* by all which is deciphered a good King; for the Lion riseth not against beasts, except he be provoked; the Dog riseth not against his friends, but wilde beasts; and the He-goat goeth before his flock like a guide and keeper.

Of the *GRAY-HOUND*, with a narration of all strong and great hunting *DOGS*.



The name of a
Gray-hound.

AMong the divers kinds of hunting Dogs, the Gray-hound or Grecian Dog, called *Therenticos* or *Elatica* (by reason of his swiftness, strength and sagacity to follow and devour wilde beast of great stature) deserveth the first place; for such are the conditions of this Dog, as *Plato* hath observed, that he is reasonably sented to finde out, speedy and quick of foot to follow, and fierce and strong to take and overcome: and yet silent, coming upon his prey at unawares, according to the observation of *Gratius*;

Sic Canis illa suos taciturna supervenit hostes.

Like the Dogs of *Acarnania*, which set upon their game by stealth. Of these are the greatest Dogs of the world, which in this place are briefly to be remembred.

Oppianus.
Their descri-
ption.
Plutarch.
Their desire
of fit game.

These have large bodies, little heads, beaked noses, but flat, broad faces above their eyes, long necks, but great next to their bodies, fiery eyes, broad backs, and most generous stomachs, both against all wilde beasts and men also. Their rage is so great against their prey, that sometimes for wrath they lose their eye-sight. They will not only set upon Bulls, Boars, and such like beasts, but also upon Lions, which *Mantuan* noteth in this verse;

Et truculentus Helor certare leonibus audens.

Countries of
Gray-hounds.
Generation by
Tygres.

The greatest dogs of this kind are in *India*, *Scythia*, and *Hircania*, and among the *Scythians* they joyn them with Asses in yolk for ordinary labour. The Dogs of *India* are conceived by Tygres, for the *Indians* will take divers females or Bitches, and fasten them to trees in woods where Tygres abide:

abide: whereunto the greedy ravening Tyger cometh, and instantly devoureth some one or two of them, if his lust do not restrain him, and then being so filled with meat (which thing Tygers seldom meet withall) presently he burneth in lust, and so limeth the living Bitches, who are apt to conceive by him: which being performed, he retireth to some secret place, and in the mean time the Indians take away the Bitches, of whom come these valorous Dogs, which retain the stomach and courage of their father, but the shape and proportion of their mother, yet do they not keep any of the first or second litter, for fear of their Tygrian stomachs, but make them away and reserve the third litter.

Of this kinde were the Dogs given to Alexander by the King of Albania, when he was going into India, and presented by an Indian, whom Alexander admired, and being desirous to try what vertue was contained in so great a body, caused a Bore and a Hart to be turned out to him, and when he would not so much as stir at them, he turned Bears unto him, which likewise he disdained, and rose not from his kennel; wherewithal the King being moved, commanded the heavy and dull Beast (for so he termed him) to be hanged up: his keeper the Indian informed the King, that the Dog respected not such Beasts, but if he would turn out unto him a Lyon, he should see what he would do.

Immediately a Lyon was put unto him, at the first sight whereof he rose with speed (as if never before he saw his match or adversary worthy his strength) and bristling at him, made force upon him, and the Lyon likewise at the Dog; but at the last, the Dog took the chaps or snout of the Lyon into his mouth, where he held him by main strength, untill he strangled him, do the Lyon what he could to the contrary; the King desirous to save the Lyons life, willed the Dog should be pulled off, but the labour of men and all their strength was too little, to loosen those ireful and deep biting teeth which he had fastned. Then the Indian informed the King, that except some violence were done unto the Dog to put him to extream pain, he would sooner dye then let go his hold; whereupon it was commanded to cut off a piece of the Dogs tail; but the Dog would not remove his teeth for that hurt: then one of his legs were likewise severed from his body, whereat the Dog seemed not apalled; after that another leg, and so consequently all four, whereby the trunck of his body fell to the ground, still holding the Lyons snout within his mouth; and like the spirit of of some malicious man, chusing rather to dye then spare his enemy. At the last, it was commanded to cut his head from the body, all which the angry Beast endured, and so left his bodiless head hanging fast to the Lyons jaws: whereat the King was wonderfully moved, and sorrowfully repented his rashness in destroying a Beast of so noble a spirit, which could not be daunted with the presence of the King of Beasts: chusing rather to leave his life, then depart from the true strength and magnanimity of minde. Which thing the Indian perceiving in the King, to mitigate the Kings sorrow, presented unto him four other Dogs of the same quantity and nature, by the gift whereof he put away his passion, and received reward with such a recompence, as well becomed the dignity of such a King, and also the quality of such a present.

Pliny reporteth also, that one of these did fight with singular courage and policy with an Elephant: and having got hold on his side, never left till he overthrew the Beast, and perished underneath him. These Dogs grow to an exceeding great stature; and the next unto them are the Albanian Dogs. The Arcadian Dogs are said to be generated of Lyons. In Canavia, one of the Fortunate Islands, their Dogs are of an exceeding stature.

The Dogs of Crete are called Diapomi, and fight with wilde Boars: the Dogs of Epirus called Chaonides, of a City Chaon, are wonderfully great and fierce; they are likewise called Moloss, of the people of Epirus so tearmed, these are said to be derived of the Dog of Cephalus, the first Gray-hound whom stories mention: and the Poets say, that this Gray-hound of Cephalus, was first of all fashioned by Vulcan in Monecian bras, and when he liked his proportion, he also quickned him with a soul, and gave him to Iupiter for a gift, who gave him away again to Europa, she also to Minos, Minos to Procria, and Procria gave it to Cephalus: his nature was so resistable, that he overtook all that he hunted, like the Teumessian Fox. Therefore Iupiter to avoid confusion, turned both the incomprehensible Beasts into stones. This Molossus, or Molossus Dog, is also framed to attend the folds of Sheep, and doth defend them from Wolves and Theeves, whereof Virgil writeth thus:

*Veloces Sparte catulos acremque Molossum
Pasce fero pingui, nunquam custodibus illis
Nocturnum stabulis furem incursusque luporum
Aut imparatos a tergo horrebis Iberos.*

These having taken hold, will hardly be taken off again, like the Indian and Persian Dogs, for which cause they are called *incommodesci*, that is, *modi nescii*, such as know no mean, which caused Horace to give counsel to keep them tyed up, saying:

Teneant acres lora molossos.

The people of Epirus do use to buy these Dogs, when they dye, and of this kinde were the Dogs of Scylla, Nicomedes, and Eupolides. The Hircanian Dogs are the same with the Indian. The Pæonian, Persian, and Median, are called *Synheroi*, that is companions, both of hunting, and fighting, as Gratius writeth:

Indocilis dat prælia Medus.

Aristotle.

Pliny.

A history of
Alexanders
Dogs.
Gillius.
Philinus.
Pliny.
Strabo.
Pollux.

Pollux.

The Albanian
Dogs.

Solinus.

Seneca.

The Dogs Mo-
loss, or of
Crete.

Aristotle.

Albertus.

Varinus.

Pollux.

The

Xenophon.
Crestas.
Of people that
live upon the
milk of Dogs.

Ælianus.

Ælianus.
Dogs devour-
ers of men.
Valerius
Max.

The Dogs of *Locus*, and *Lucene* are also very great, and fight with Bores. There are also a kinde of people called *Cynamoly*, neer *India*, so called, because for one half of the year they live upon the milk of great Dogs, which they keep to defend their Countrey from the great oppression of wilde Cattel, which descend from the Woods and Mountains of *India* unto them yearly, from the Summer solstice to the middle of Winter, in great numbers or swarms, liee Bees returning home to their Hives and Hony-combes: These Cattel set upon the people, and destroy them with their horns, except their Dogs be present with them, which are of great stomach and strength, that they easily tear the wilde Cattel in pieces, and then the people take such as be good for meat to themselves, and leave the other to their Dogs to feed upon: the residue of the year they not only hunt with these Dogs, but also milk the females, drinking it up like the milk of Sheep or Goats. These great Dogs have also devoured men, for when the servant of *Diogenes* the *Cynick*, ran away from his master, being taken again and brought to *Delphos*, for his punishment he was torn in pieces by Dogs. *Euripides* also is said to be slain by Dogs; whereupon came the proverb *Cynos dike*, a Dogs revenge: for King *Archelaus* had a certain Dog which ran away from him into *Thracia*, and the *Thracians* (as their manner was) offered the same Dog in sacrifice, the King hearing thereof, laid a punishment upon them for that offence, that by a certain day they should pay a talent; the people breaking day, suborned *Euripides* the Poet (who was a great favourite of the Kings) to mediate for them, for the release of that fine: whereunto the King yeilded: afterward as the said King returned from hunting, his Dogs stragling abroad, met with *Euripides*, and tore him in pieces, as if they sought revenge on him, for being bribed against their fellow which was slain by the *Thracians*. But concerning the death of this man, it is more probable, that the Dogs which killed him, were set on by *Arideus* and *Cratenas*, two *Theffalian* Poets, his emulators and corrivals in Poetry, which for the advancement of their own credit, cared not in most savage and barbarous manner, to make away a better man then themselves: There were also other famous men which perished by Dogs, as *Alceon*, *Thrasus*, and *Linus*; of *Thrasus*, *Ovid* writeth thus;

Predaque sis illis quibus est Laconia Delos

Ante diem rapio non adeunda Thraso.

And of *Linus* and *Alceon* in this manner;

Quique verecunda speculantem membra Diane,

Quique Crotopiadem diripuerunt Linum.

Lucian that scoffing Apostate, who was first a Christian, and afterward endeavoured all his wit to rail at Christian Religion, even as he lacerated and rent his first profession, so was he rent in pieces by Dogs; and *Heracitus* the Philosopher of *Athens*, having been long sick, and under the hands of Physitians, he oftentimes anointed his body with Bugils sewer, and on a day having so anointed himself, lying abroad sleeping in the Sun, the Dogs came, and for the desire of the fat tore his body in pieces. I cannot here forget that memorable story of two Christian Martyrs, *Gorgonius* and *Dorotheus*, which were put to death under *Diocletian* in the ninth persecution, and when they were dead, their carcases were cast unto hungry Dogs of this kinde, kept for such purposes, yet would not the Dogs once so much as stir at them, or come neer to touch them; and because we may judge that the ravening nature of these creatures was restrained by divine power: We also read that when *Benignus* the Martyr, by the commandment of *Zurilian*, was also thrown alive to be devoured of these Dogs, he escaped as free from their teeth, as once *Daniel* did from the Lyons den. I may also adde unto these the Dogs of *Alania* and *Illyria*, called *Mastini*, who have their upper lips hang over their neather, and look fierce like Lyons, whom they resemble in neck, eyes, face, colour, and nails; falling upon Bears, and Boars, like that which *Anthologus* speaketh of, that leaped into the Sea after a Dolphin, and so perished; or that called *Lydia*, slain by a Boar; whose Epitaph *Martial* made as followeth:

Amphitheatrales inter nutrita magistros

Venatrix silvis aspera, blanda domi,

Lydia dicebar, domino fidissima dextro,

Qui non Erigones mallet habere Canem,

Nec qui Dileta Cephalum de gente secutus,

Lucifera pariter venit ad astra dea,

Non me longa dies, nec inutilis abstulit ætas,

Qualia Dulichio fata fuere cani,

Fulmineo spumantis apri sum dente perempta,

Quantus erat Calydon, aut Erymanthe riuus,

Nec queror, infernas quamvis cito rapta per umbras:

Non potui fato nobiliore mori.

The French
Dogs.

There be in France certain great Dogs (called *Auges*) which are brought out of Great Britain, to kill their Bears, Wolves, and wilde Boars; these are singularly swift and strong, and their leaders,

the better to arm them against the teeth of other Beasts, cover some of their parts with thick clouts, and their necks with broad collars, or else made of Badgers skins. In *Gallia Narbon*, they call them *Limier*, and the *Polonians* call all made Dogs for the Wolf, and such like Beasts; *Vistia*: and peculiarly for the Bear and Bore, *Charzii*, for Hares and Fowl, *Pobiednizoti*, and Dogs of a middle scantling betwixt the first and the second, *Psi*.

Gray-hounds are the least of these kindes, and yet as swift and fierce as any of the residue, refusing no kinde of Beast, if he be turned up thereunto, except the Porcupine, who casteth her sharp pens into the mouth of all Dogs. The best Gray-hound hath a long body, strong and reasonable great, a neat sharp head, and iplendent eyes, a long mouth, and sharp teeth, little ears and thin gristles in them; a straight neck, and a broad and strong breast, his fore-legs straight and short, his hinder-legs long and straight, broad shoulders, round ribs, fleshy buttocks, but not fat, a long tail, strong and full of sinews, which *Nemesian* describeth elegantly in these verses;

The qualities
and parts of a
good Gray-
hound.
Pliny.
Xenophon.

*Sit curibus altis
Costarum sub sine decenter prona carinam:
Renibus ampla satis validis diductaque coras
Sit rigidis, multamque gerat sub pectore lato,
Quae sensim rursus sicca se colligat alvo:
Cuique nimis molles fluitent in curibus aures.
Elige tunc cursu facilem, faciliemque recursu,
Dum superant vires, dum lato flore iuventus.*

Of this kinde, that is alway the best to be chosen among the whelps, which weigheth lightest: for it will be soonest at the game, and so hang upon the greater beasts hindering their swiftnes, untill the stronger and heavier Dogs come to help: and therefore besides the marks, or necessary good parts in a Gray-hound already spoken of, it is requisite that he have large sides, and a broad mid-risse or film about his heart, that so he may take his breath in and out more easily: a small belly, for if it be great, it will hinder his speedy course; likewise that he have long legs: thin and soft hairs; and these must the Hunter lead on the left hand if he be a foot, and on the right hand if he be on Horseback.

Bellisarius.
Pollux.

The best time to try them, and train them to their game, is at twelve months old, howbeit some hunt them at ten months, if they be males, and at eight months, if they be female; yet is it surest not to strain them, or permit them to run any long course till they be twenty months old, according to the old verse;

The time of
teaching a
Gray-hound;

*Libera tunc primum consuescant colla ligari,
Iam cum bis denos Phaebe reparaverit ortus,
Sed parvos vallis spatia septove novelli
Nec cursus virtute parem, &c.*

Keep them also in the leam or slip while they are abroad, untill they see their course, I mean, the Hare or Deer, and loosen not a young Dog, till the game have been on foot a good season, lest if he be greedy of the prey he strain his limbs till they break. When the Hare is taken, divide some part thereof among your Dogs, that so they may be provoked to speed by the sweetness of the flesh.

Aristotle.
Xenophon.

The *Lacedemon* Gray-hound was the best breed, they were first bred of a Fox and a Dog, and therefore they were called *Alopecides*, these admit copulation in the eight moneth of their age, and sometime in the sixt, and so continue bearing as long as they live, bearing their burthen the sixth part of a year, that is, about sixty days, one or two, more or less: and they better conceive, and are more apt to procreation while they are kept in labour, then when they lie idle without hunting. And these *Lacedemon* Dogs differ in one thing from all other Dogs whatsoever, for whereas the male out-liveth in vulgar Dogs of all Countries the female, in these the female out-liveth the male, yet the male performeth his labour with more alacrity, although the female have the sharper sense of smelling.

The time of
engendring.

Pliny.
Aristotle.

The noblest kinde of Dogs for the Hare keep home, unless they be led abroad, and seldom bark: they are the best which have the longest necks, for which cause they use this artificial invention to stretch their necks; they dig a deep hole in the earth, wherein they set the Gray-hounds meat, who being hungry, thrusteth down his head to take it, but finding it to be past his reach, stretcheth his neck above the measure of nature, by custom whereof, his neck is very much lengthened. Other place the Gray-hound in a ditch, and his meat above him, and so he reacheth upward, which is more probable. It is the property of these Dogs to be angry with the lesser barking Curs, and they will not run after every trifling Beast, by secret instinct of nature, discerning what kinde of Beast is worthy or unworthy of their labour, disdainning to meddle with a little or vile creature. They are nourished with the same that the smaller hunting Dogs are; and it is better to feed them with milk then whay. There are of this kinde called *Veltri*, and in *Italian*, *Veltro*; which have been procreated by a Dog and Leopard, and they are accounted the swiftest of all other. The Gray-hounds which are most in request among the *Germans*, are called *Windspil*, alluding to compare their swiftnes with

Albertus.

An invention
to make a
Gray-hound
have a long
neck.
The diet of a
good Gray-
hound.

with the winde, the same are also called *Turkischwind* and *Heizhund*, and *Falco* a *Falcon*, is a common name whereby they call these Dogs. The *French* make most account of such as are bred in the Mountains of *Dalmatia*, or in any other Mountains, especially of *Turkey*; for such have hard feet, long ears, and bristle tails.

There are in *England* and *Scotland*, two kinds of hunting Dogs, and no where else in all the world; the first kinde they call in *Scotland*, *Ane Rache*, and this is a foot-smelling creature, both of wilde Beasts, Birds, and Fishes also, which lie hid among the Rocks; the female hereof in *England*, is called a *Brache*. The second kinde is called in *Scotland*, a *Sluth-hound*, being a little greater then the hunting Hound; and in colour for the most part brown, or sandy-spotted. The sense of smelling is so quick in these, that they can follow the foot-steps of theeves, and pursue them with violence untill they overtake them; and if the thief take the water, they cast in themselves also, and swim to the other side, where they finde out again afresh their former labour, untill they finde the thing they seek for: for this is common in the Borders of *England* and *Scotland*, where the people were wont to live much upon theft; and if the Dog brought his leader unto any house, where they may not be suffered to come in, they take it for granted, that there is both the stolen goods, and the thief also hidden.

The Hunting Hound of *Scotland* called *RACHE*, and in
English a *HOUND*.



The *SLUTH-HOUND* of *Scotland*, called in *Germany* a
SCHLATTHVND.



The English BLOOD-HOUND.



WE are to discourse of lesser hunting Dogs in particular, as we finde them remembered in any Histories & descriptions, Poets or other Authors, according to the severall Countreies of their breed and education; and first for the British Dogs, their nature and qualities hereafter you shall have in a severall discourse by it self. The Blood-hound differeth nothing in quality from the Scottish Sluth-hound, saving they are greater in quantity, and not alway of one and the same colour; for among them they are sometime red, fanded, black, white, spotted, and of such colour as are other Hounds, but most commonly brown or red.

The vertue of smelling called in Latine, *Sagacitas*, is attributed to these as to the former hunting Hound, of whom we will first of all discourse, and for the qualities of this sense, which maketh the Beast admirable, *Plautus* seemeth to be of opinion, that it received this title from some Magicians or sage Wisards (called *Sage*) for this he saith, speaking of this Beast: *Canem hanc esse quidem Magis par fuit: nasum adepol sagax habet*: It is also attributed to Mice, not for smelling, but for the sense of their palate or taste; and also to Geese: In a Dog it is that sense which searcheth out and descryeth the routs, fowls, and lodgings of wilde Beasts, as appeareth in this verse of *Livius Andronicus*.

*Cum prius fida Canum vis
Dirige odorisequos ad certa cubilia canes.*

And for this cause it hath his proper Epithets, as *Odora canum vis*, *promissa canum vis*, & *naribus acris*, & *utilis*: *Pincianus* called this kinde *Plaudi*, for so did *Festus* before him, and the Germans, *Spurbund*; and *Leirhund*, *laghund*, because their ears are long, thin, and hanging down, and they differ not from vulgar Dogs in any other outward proportion, except only in their cry or barking voyce.

The nature of these is, being set on by the voyce and words of their leader, to cast about for the sitting of the Beast, and so having found it, with continual cry to follow after it till it be wearied, without changing for any other; so that sometimes the Hunters themselves take up the Beast, at least wise the Hounds seldom fail to kill it. They seldom bark, except in their hunting chase; and then they follow their game through woods, thickets, thorns, and other difficult places, being alway obedient and attentive to their leaders voyce, so as they may not go forward when he forbideth, nor yet remain neer to the Hunters, whereunto they are framed by Art and discipline, rather than by any natural instinct.

The White Hounds are said to be the quickest sented and surest nosed, and therefore best for the Hare: the black ones for the Boar, and the red ones for the Hart and Roe: but hereunto I cannot agree, because their colour, (especially of the two later) are too like the game they hunt; although there can be nothing certain collected of their colour, yet is the black Hound harder and better able to endure cold, then the other which is white. In Italy they make account of the spotted one, especially white and yellowish, for they are quicker nosed: they must be kept tyed up till they hunt, yet so as they be let loose now and then a little to ease their bellies, for it is necessary that their kennel be kept sweet and dry.

It is questionable how to discern a Hound of excellent sense, (yet as *Blondus* saith) the square and flat nose is the best sign and index thereof: likewise a small head, having all his legs of equal

In Curcul.
What smelling
or sagacity in
Dogs is.

Bellisarius.

The choice of
a Hound of the
best nose.

equal length, his breast not deeper then his belly, and his back is plain to his tail, his eyes quick, his ears long hanging, but sometimes stand up: his tail nimble, and the beak of his nose away to the earth, and especially such as are most silent or bark least.

Xenophon.
Omni Bonus.
Oppianus.

There are some of that nature, who when they have found the Beast they will stand still untill their Hunter come, to whom in silence by their face, eye, and tail, they shew their game. Now you are to observe the divers and variable disposition of Hounds in their finding out of the Beast: some, when they have found the footsteps go forward without any voyce or other shew of ear or tail. Again, another sort, when they have found the footings of the Beast, prick up their ear a little, but either bark, or wag their tails; other will wag their tail, but not move their ears, other again wring their faces, and draw their skins through over much intention, (like sorrowful persons) and so follow the sent, holding the tail unmoveable.

There be some again, which do none of these, but wander up and down, barking about the surest marks, and confounding their own foot-steps with the Beasts they hunt, or else forsake the way, and so run back again to the first head; but when they see the Hare, they tremble and are afraid, not daring to come near her, except she run away first: these with the other, which hinder the cunning labours of their colleagues, trusting to their feet, and running before their betters, deface the best mark, or else hunt counter (as they tear it) take up any false sent for the truth, or which is more reprehensible, never forsake the high ways, and yet have not learned to hold their peace: unto these also you may adde those which cannot discern the footings or pricking of the Hare, yet will they run speedily when they see her, or else at the beginning set forth very hot, and afterward tyre, and give over lazily; all these are not to be admitted into the kennel of good Hounds.

But the good and approved Hounds on the contrary, when they have found the Hare, make shew thereof to the Hunter, by running more speedily, and with gesture of head, eyes, ears, and tail, winding to the Hares muse, never give over prosecution with a gallant noise, no not returning to their leaders, lest they lose advantage: they have good and hard feet, and are of stately stomacks, not giving over for any hate, and fear not the rocks or other mountain places, as the Poet expresth:

Quæ laus prima canum? quibus est audacia præcept:

Quæ nunc elatis rimantur naribus auras:

Et perdunt clamore feram, dominumque vocando

Insequitur tumulosque canis camposque per omnes.

Venandi sagax virtus viresque sequendi,

Et nunc demisso querunt vestigia rostris.

Increpant quem si collatis effugit armis,

Noster in arte labor positus, spes omnis in illa, &c.

And therefore also it is good oftentimes to lead the Hounds to the Mountains for exercise of their feet, when you have no Hare or other Beast.

The best time
of hunting.

And whereas the nature of this Hare is, sometimes to leap and make headings, sometimes to tread softly, without any great impression in the earth, or sometimes to lye down and ever to leap or jump out & in to her own fourm or sitting, the poor Hound is so much the more bused and troubled to retain the small favour of her footings which she leaveth behinde her: for this cause also it is to be noted, that the Hound must be help not only with the voyce, eye, and hand of the Hunter, but also with a seasonable time, for in frosty weather the favour congealeth and freezeth with the earth, so as you cannot hunt with any certainty untill the thaw thereof, or till the Sun arise.

The first
training of
Hounds.

Likewise if rain fall betwixt the going of the Hare and the hunting time, you cannot hunt till the water be dried up, for the drops disperse the sent of the Hare, and the dry weather recollecteth it again. The Summer time also is not for hunting, by reason the heat of the earth consumeth the favour, and the night being then but short, the Hare travelleth but little, feeding only in the evening and morning. Likewise the fragrantcy of every green herb yeeldeth such a favour, as doth not a little obliterate and oversway the favour of the Beast: and therefore Aristotle in his Wonders, sheweth that in *Ætna* in the Summer time, there are such plenty of sweet smelling flowers, especially of Violets, which overcome the nostrils of the Hounds, so as in vain they follow the Hare. The best time therefore for hunting with these Hounds is the Autumn or fall of the leaf, because that then the odours of herbs are weakned, and the earth barer then at other times. The best manner to teach these Hounds, is to take a live Hare and trail her after you upon the earth, now one way, now another; and so having drawn it a convenient space, hide it in the earth; afterward set forth your Hound neer the trail, who taking winde, runneth to and fro neer the woods, fields, pastures, path-ways, and hedges, untill he finde which way the Hare is gone, but with a soft and gentle pace, untill at length coming neer the lodged Hare, he mendeth his pace, and bestirreth himself more speedily, leaping upon his prey like some Serpent, or as an arrow shot out of a Bow, and so tearing it in pieces or killing it with joy, loadeth himself with his conquest, and bringeth it to his Master with triumph, who must receive both Dog and it, with all tokens of love into his own bosome, which thing caused Nemesian to write thus;

Quæ freta si Morinum dubio resluentia ponto,

O quanta est merces, & quantum impendia supra

Protinus,

*Si non ad speciem mensurosque decores
Protinus, hæc una est catulis jactura Britannia.
Diversa Britannia mittit
Veloces, nostrique orbis venatibus aptos.*

There are divers Countrey Dogs like unto these, as the *Geloni* and *Gnosii*, which caused *Ovid* to reckon and call *Ichnobates* one of *Aëtons* Dogs *Gnosius*: whom *Oppianus* compareth to the *Polypus* fish, which smelling in the waters the leaves of Olives, by the sent is drawn to the land to eat them. The *Spanish* Dogs whom the *French* call *Espagneux*, have long ears, but not like a *Braches*, and by their noses hunt both Hares and Conies, they are not rough, but smooth haired. The *Tuscan* Dogs are commended by *Nemesian*; notwithstanding, they are not beautiful to look upon, having a deep shaggy hair, yet is their game not unpleasant.

Of the Hounds
of Iundry
Countre.

*Quin & Tuscorum uon est extrema voluptas
Sape Canum: forma est illis licet obsita villo, &c.
Haud tamen injucunda dabunt tibi munera prædæ, &c.
Atque etiam leporum secreta cubilia monstrant.*

The *Umbrian* Dog is sharp nosed, but fearfull of his sport, as *Gratius* expresseth.

*Aut exigit Umber
Nare sagax e calle feras,
At fugit adversus idem quos efferet hostes,
Tanta foret virtus, & tantum vellet in armis.*

The *Ætolian* Dogs have also excellent smelling noses, and are not slow or fearful, whom *Gratius* expresseth as followeth:

*At clangore citat, quos nondum conspicit apros,
Ætola quæcunque Canis de stirpe (malignum
Officium) &c.
Seu frustra nimis properat furor,
Mirum quam celeres & quantum nare merentur.*

The *French* Dogs are derived or propagated of the Dogs of *Great Britain*, and are swift and quick sented, but not all, for they have of divers kindes, as *Gratius* expresseth in these words;

Magnæque diversos extollit gloria Celtas.

They are very swift, and not sharp nosed, wherefore they are mingled in generation with the *Umbrian* Dogs, and therefore he celebrateth in many verses, the praise of the first Hunter (as he taketh him.) *Hagno* *Beonius* and his Dog *Metagon*, and afterward the Dog *Petronius*; but it may be, that by *Metagon*, he meaneth the Dogs of *Lybia*, because there is a City of that name: and by *Petronius* the Dogs of *Italy*, for *Petronia* is a river that falleth into *Tiber*.

The *Grammarians* call a Dog engendered of a Hound, and an ordinary *French* Dog, *Vertagus*, a Tumbler: because he setteth himself to hunting, and bringeth his prey to his Master, whereupon *Martial* made this *Distichon*:

*Non sibi, sed Domino venatur vertagus acer,
Illesum leporem qui tibi dente feret.*

The WATER SPAGNEL.



Such be also other smelling Dogs, called in the *German* tongue (*Lochundle*) that is, *Terriers* or *Beagles*: these will set upon Foxes and Badgers in the earth, and by biting expel them out of their dens; whereof *Aristotle* reporteth a wonder, that one of them followed a Fox under the ground in *Bæotia*, and there made so great a noise by barking, that the Hunters went also into the Cave, where they saw many strange things which they related to the chief Magistrate.

Unto all these smelling Dogs, I may also adde the water Spag-
nel, called in *French*, *Barbet*; and

and in Germany (*Wasserhund*;) who is taught by his Master to seek for things that are lost, (by words and tokens) and if he meet any person that hath taken them up, he ceaseth not to bay at him, and follow him till he appear in his Masters presence. These also will take water-fowl, and hunt Otters and Beavers, (although Hounds also will do the same) and watch the stroke of a Gun when the fowler shooteth, and instantly run into the water for the dead fowl, which they bring to their Master. They use to shear their hinder parts, that so they may be the less annoyed in swimming; whose figure is in the bottom of the former page described.

I may here also add the Land-Spagnel, attending a Hawk, who hath no proper name in English, except from the fowl he hunteth; for which cause the French call them Dogs of the Quails; and the Germans, *Vogel-hund*, a fowl-Hound; although all Birds little fear Dogs, except the Bustard, who hath a heavy body, and is not able to fly far: yet are these taught by Falconers to retrieve and raise Partridges, for they first take them into the fields, and shew them Partridges, whom after they have favoured twice or thrice, by custom they remember, and being uncoupled, will bestir themselves into all corners to finde them, being after a while very proud of employment, and very understanding in their game: they are for the most part white or spotted, with red or black: the *Polonians* call them (*Pobienitzii*) and a Poet describeth them thus:



Stroza.

*Nare sagax alius, campisque undisque volucres
Quærit, & aduncus huc indefessus & illinc.
Discurrit.*

Of the mixt kinde of Dogs calleed in English *MANGRELS* or *MONGRELS*.

Those we call Mangrels, which though they be on both sides propagated by Dogs, yet are they not of one kinde: for as once Dogs coupled with Asses, Leopards, Lyons, Tygers, Apes, or any such Beasts, according to the old Verse;

Canis congeneres Lupus, Vulpes, Hyæna, Tygris.

So now it is ordinary for the Gray-hound to couple with the Mastive, the Hound with the Gray-Hound, the Mastive with the Shepherds Dog, and the Shepherds Dog with any other Cur or Beagle: of these kindes we will now speak in order. And it is not to be omitted, that this commixtion of kindes have been invented by Hunters for the amendment of some natural fault, or defect they found in the *Monophyli*, that is, one single kinde, and so hereby they added some qualities to their kinde which they wanted before either in strength of body, or craft of wit: for they derive both of these from their Sires, wherefore *Oppianus* declareth, that in the commixtion of Dogs, the Ancients coupled together these kindes, the *Arcadians* with the *Eleians*, the *Cretensians* with the *Peonians*, the *Carians* with the *Thracians*, the *Lacedemonians* with the *Tyrrhenian*, the *Sarmatian* with the *Iberian*, and the *Gallican* Dogs with the *Umbrian*, because they want the quick sense of smelling: according to these verses:

*Quondam inconsultis mater dabit Umbrica Gallis
Sensum agilem, traxere animos de parte Gelone
Hyrcano & vanæ tantum Calydonia lingue
Exibit vitium patre emendata Molosso.*

These Dogs so generated are peculiarly tearmed in Greek, *Hybris*, and *Hybrida*, as *Porphyrus* writeth. The French Wolves were wont to have a Dog for their Captain or Leader, and it is ordinary for Wolves and Dogs to couple together, as by experience it hath been observed: And it is certain, that Mastive Dogs had their first beginning from this copulation, wherefore *Virgil* calleth one of these Dogs *Lycisca*.

Referensque Lupum torvo ore Lycisca.

The Dogs which are bred of *Thoes*, are commended for their rare qualities and understanding parts in the time of Wars, by *Hagnon Bæotius* in these verses;

*Hic & semiferam thoum de sanguine prolem
Seu norit voces, seu nudi ad pignora martis
Et subiere astu, & parvis domuere lacertis
Vulpina specie.*

Commixtion
of kindes in
procreation.
Pliny.

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The Dogs of *Hircania* do of themselves run into the Woods, (like adulterers) and seek out the Tygers to engender with them, which thing *Gratius* remembreth elegantly in many verses:

Utroque gravis succedere Tigri
Ausu canis, majore tulit de sanguine foetum,
Excutiet silva magnus pugnator adeptus.

In the rank of these Mangrels, I may adde in the next place those Dogs, called by the *Gracians*, *Symmaschi*, and *Somatophylakes*, because they attended upon men in their travels and labors to defend them, and are taught to fight for them, both against men and other beasts; wherein they are as ready to take knowledge of violence offered to their Master, and also to revenge or hinder it, as a reasonable creature can be. These are called of the *Latines*, *Canes socii defensores*, sociable Dogs; of which there be two sorts, the first, is lesser, being of rough and long curled hair, his head covered with long hair, of a pleasant and tractable disposition, never going far from his Master, such was the Dog of *Tobit*, and the Dog of *Codrus* the Poet, called *Chiron*, whereof *Juvenall* maketh mention; whose benevolence and ready minde toward their keepers and nourishers may appear by this story of *Colophonius*.

Upon a season, he with a Servant, and a Dog, went to a certain Mart to buy Merchandise, and as they travelled, his Servant which carried the purse, diverted a little out of the way, to perform the work of nature, and the Dog followed him; which being done, he forgot to take up the Purse of mony that had fallen from him to the ground in that place, and so departed; the Dog seeing the purse, lay down beside it, and stirred not a foot; afterward the Master and man went forward, mistaking their Dog, and not their money, untill they came to their Mart or Fair, and then for want of mony were constrained to return back again without doing any farther thing: wherefore they resolved to go back again the same way they came, to see if they could hear of their mony, and at last when they came to the place where the servant had left the purse, there they found both Dog and mony together; the poor Cur scarce able to see or stand for hunger: when he saw his Master and the servant come unto him, he removed from the earth, but life not able to tarry any longer in his body, at one and the same time in the presence of his friends and nourishers he also dyed, and took of them both his last farewell, through the faithful custody of their forgotten goods; for which it is apparent, that one part of their faithful disposition is, to keep their nourishers goods committed unto them, as shall be afterward more at large manifested.

Their watchful care over their Masters may appear also by these stories following, for the Dogs of *Xanippus* followed their Master to the Ship, at what time he was forewarned by the Oracle to depart out of *Athens*, by reason of the *Persians* war in *Greece*, and so they sailed with him to *Salamine*; and as they sailed, by the way he commanded one of them to be cast into the Sea, who continued swimming after the Ship untill he dyed, for which cause his Master buried him.

When *Gelon* the *Syracusan*, in his sleep had a fearful dream, that he was stricken with fire from Heaven, and with impression of fear, cryed out very lamentably: his Dog lying beside him, and thinking that some peril or thief was doing violence to his Master, he presently leaped up to the bed, and with scratching and barking awaked him, and so was he delivered from a horrible fear, by the barking of his Dog.

The *Tyrians* which have the best and the first purple in the world, are said in History to have it by the first occasion of *Hercules* Dog. *Hercules* falling in love with a Nymph called *Tyro*, and travelling toward her with his Dog, he saw the purple fish creeping upon a stone, the hungry Dog caught the fish to eat it, and having devoured it, his lips were all dyed or coloured with the same: when the Virgin Nymph saw that colour upon the Dogs lips, she denied the love of *Hercules*, except he could bring her a garment of that colour, whereupon the valiant man knowing by what occasion the Dogs lips received such a tincture, went and gathered all the purple fishes and worms he could finde, and pressing their blood out of them, therewithal coloured a garment, and gave it to the Nymph; for reward whereof, he possessed the Virgin, being by this means the first inventor of the *Phœnician* tincture.

Among these are to be remembered those loving Dogs, who either have fought for their Masters and so defended them, or else declared them that murdered their keepers, or that which is more admirable, leaped into the burning fires which consumed the dead bodies of their nourishers. Such an one was the Dog of *Calvus*, who being slain in a certain civil War at *Rome*, and his enemies coming about him to cut off his head, his poor Dog interposed his body betwixt the blows, and would not suffer any foe once to touch his Masters carcass, untill by more then six hundred souldiers the Dog was cut in pieces, so living and dying a most faithful companion and thankful friend to him that fed him.

The like was in a Dog of *Darius* the last King of the *Persians*, after he was slain by *Besus* and *Narbazanes* in the battel against *Alexander*, & so did the Dog of *Silanion* fight for his Master against thieves, and when he was slain, he departed not from the body, but kept it warily from Dogs, Birds, or wilde Beasts, sitting upon his privy parts, and covering them untill the *Roman* Captains came and buried it.

But most admirable was the love of a certain Dog to his Master punished with death, for the fact against *Germanicus*. Among other, this Dog would never go from the prison, and afterward when his Masters dead body was brought in the presence of many *Romans*, the Cur uttered most lamentable and sorrowful cries; for which cause one of the company threw unto him some meat, to

Of Dogs defenders and attenders on men.

Blondus.
Ælianus.

A history of the rare trust of a Dog, and care to keep his Masters goods.

Tzetzes.

Ælianus.
Tzetzes.

Asclepiades.
Ælianus.
Pollux.

Of fighting Dogs, defending Men.

Ælianus.
Tzetzes.

Pliny.

Tzetzes.

see if that would stop his mouth, and procure silence : but the poor Dog took up the meat, and carryed to his masters mouth, not without the singular passion of the beholders : at last the body was taken up and cast into the river *Tiber*, the poor Dog leaped in after it, and endeavoured by all the means his weakness could afford, to keep it from sinking, in the presence of an innumerable multitude, which without tears could not look upon the loving care of this brute beast.

Dogs detectors
of murders.

Plutarch.

The Dogs of *Gelon*, *Hieron*, *Lyfimachus*, *Pyrrhus* King of *Epirus*, *Polus* the *Tragædian*, and *Theodorus*, leaped into the burning fires which consumed their masters dead bodies. *Nicias* a certain Hunter going abroad in the Woods, chanced to fall into a heap of burning coals, having no help about him but his Dogs, there he perished, yet they ran to the high ways, and ceased not with barking and apprehending the garments of passengers, to shew unto them some direful event : and at last one of the travellers followed the Dogs, and came to the place where they saw the man consumed, and by that conjectured the whole story. The like did the Dogs of *Marius Caesarinus*, for by howling they procured company to draw him out of a deep Cave, whereinto he was fallen on Horse-back, and had there perished (being alone) except his Hounds had released him. But that Dogs will also bewray the murtherers of their friends and masters, these stories following, may evidently manifest.

As King *Pyrrhus* by chance travelled in his Countrey, he found a Dog keeping a dead corps, and he perceived that the Dog was almost pined, by tarrying about the body without all food, wherefore taking pity on the beast, he caused the body to be interred, and by giving the Dog his belly full of meat, he drew him to love him, and so led him away : afterward as *Pyrrhus* mustered his souldiers, and every one appeared in his presence, the Dog also being beside him, he saw the murtherers of his master, and so not containing himself, with voyce, tooth, and nail, he set upon them : the King suspecting that which followed, examined them if ever they had seen or known that Dog, they denied it, but the King not satisfied, charged them that surely they were the murtherers of the Dogs Master, (for the Dog all this while remained fierce against them) and never barked before their appearance, at the last their guilty consciences brake forth at their mouths and tongues end, and so confessed the whole matter.

Blondus.

The like was of two *French* Merchants which travelled together, and when they came into a certain Wood, one of them rose against the other for desire of his money, and so slew him and buried him. His Dog would not depart from the place, but filled the Wood with howlings and cries; the murtherer went forward in his journey, the people and Inhabitants neer the said Wood, came and found both the murdered corps, and also the Dog, which they took up and nourished till the Fair was done, and the Merchants returned, at which time they watched the high wayes, having the Dog with them, who seeing the murtherer, instantly made force at him without all provocation, as a man would do at his mortal enemy; which thing caused the people to apprehend him, who being examined, confessed the fact, and received condign punishment for so foul a deed.

To conclude this discourse with one memorable story more out of *Blondus*, who relateth that there was a certain woman neer *Paris*, who was beloved of two young men; one of them on a day took his staffe and his Dog, and went abroad (as it was thought, of purpose to go to his love) but it happened that by the way he was murdered and buried, and the Dog would not depart from the grave of his Master : at the last, he being missed by his father and brethren, one of them went also to seek him, and see what was become of him, and so seeking, found the Dog lying upon his grave, who howled pitifully when he saw his Masters brother : the young man caused the ground to be opened, and so found the wounded corps of his brother, which he brought away, and caused to be buried till the murtherer could be described : afterward in process of time, the Dog in the presence of the dead mans brethren espied the murtherer, and presently made force upon him very eagerly; which the brethren suspecting, apprehended him, and brought him before the Governours of the City, who examining him with all the policies they could invent, what should be the occasion, why the Dog should so eagerly fly upon him at all times, whensoever he was brought into his presence, could not get any confession of the fact from him : then the Magistrate adjudged, that the young Man and the Dog should combat together.

A combat.

The Dog was covered with a dry sod skin in stead of armour, and the murtherer with a spear, and on his body a little thin linnen cloath, both came forth to fight, and so the man presently made force at the Dog, who leaping up to the face of the murtherer, took him fast by the throat, and overthrew him, whereat the wretch amazed, cryed out, saying, take pity on me you reverend Fathers, and pull off the Dog from my throat, and I will confess all; the which they performed, and he likewise declared the cause and manner of the whole murder, for which thing he was deservedly put to death. And thus far of the lesser sociable Dogs, now followeth the second kinde of the greater.

Blondus.
The greater
sociable Dogs
or defenders.

The greater sociable Dogs of defence are such as souldiers use in wars, or else are accustomed to keep houses or cattel. This kinde ought to be horrible, fierce, strange and unacquainted with all, except his Master, so that he be always at daggers drawing, and ready to fight with all which shall but lay their hands upon him, for which cause he ought to be instructed from his littering or infancy by art or continual discipline, to supply in him the defects of nature : let him be often provoked to wrath by boyes, and afterward as he groweth, let some stranger set upon him with weapon, as staffe or sword, with whom let him combat till he be wearied, and then let him tear some peece of the provokers garment, that so he may depart with a conceit of victory; after the fight tie him up fast, and suffer him not to straggle loose abroad, but feed him thus tyed up, so shall he in

short

short time prove a strong defender, and eager combatant against all men and beasts which come to deal with him. Of this sort they nourish many in *Spain*, and in other places.

Such an one was the Dog of *Pherus* the Tyrant of *Theffaly*, being a very great and fierce Beast, and hurtful to all, except them who fed him daily. He used to set this Dog at his chamber dore to watch and guard him when he slept, that who so ere was afraid of the Dog, might not approach near without exquisite torments. *Augeas* gave one of these to the Poet *Eupolis*, who taught him by many signes and gestures for the love of his meat, to observe his servant *Ephialtes*, if at any time he stole mony from him. And at the last, the wily Dog observed the servant so narrowly, that he found him robbing his Masters coffers: wherefore he instantly fell upon him and tore him in pieces. The which Dog afterward died for sorrow of his Masters death; whereupon *Aelianus* saith, that the place of his death in *Agina* was called the place of mourning, to the day of his writing.

Nicomedes King of *Bythia*, had one of these *Molossian* great Dogs, which he nourished very tenderly, and made it very familiar with himself: it fell out on a time, that this King being in dalliance with his wife *Ditizele*, in the presence of the Dog, and she again hanging about the Kings neck, kissing and provoking him to love with amorous gestures, the Dog thinking she had been offering some violence to his master the King, presently flew upon her, and with his teeth pulled her right shoulder from her body, and so left the amorous Queen to dye in the arms of her loving Husband: which thing caused the King to banish the Dog for ever out of his sight, for sorrow whereof he soon after dyed; but the Queen was most nobly buried at *Nicomedia* in a golden Sepulcher: the which was opened in the reign of the Emperour *Michael*, son of *Theophilus*, and there the womans body was found whole and not putrefied, being wrapped in a golden vesture, which taken off, and tryed in a furnace, yeelded above an hundred and thirteen pounds of pure gold.

When a Dragon was setting upon *Orpheus*, as he was occupied in hawking, by his Dogs his life was saved, and the Dragon devoured. And when *Celius* one of the Senators of *Placentia* being sick, was set upon by certain lewd fellows, he received no wound till his Dog was slain.

There was never any thing more strange in the nature of Dogs, then that which happened at *Rhodes* besieged by the *Turk*, for the Dogs did there discern betwixt Christians and *Turks*; for towards the *Turks* they were most eager, furious, and unappeaseable, but towards Christians, although unknown, most easie, peaceable and placidious, which thing caused a certain Poet to write thus:

*His auxere fidem quos nostro fulva sub are
Arva & Carpathii defendit littora ponti.
Pectora thoracum tunica sacrumque profano
Miratur, nutritque Rhodes, custodibus illis
It noctes animosa Phalanx innexa trilici
Seligit, & blande exceptum deducit ad Urbem.*

There were two hundred of these Dogs which brought the King of *Garamanis* from banishment, rescuing him from all that resisted. The *Colophonian* and *Castabalenian*, or *Caspian* Dogs fought in all their battels: so likewise the *Cimbrian*, *Hircanian*, and *Magnesian* Dogs: these also the *Spaniards* used in *India*, to hunt out the naked people, falling upon them as fiercely as ever they would upon *Bbores*, or other wilde Beasts, being pointed unto by their leaders finger. And for this cause was it, that *Vasobus* the *Spaniard* caused *Paera* an *Indian* Lord, and three other his wicked companions to be cast unto Dogs for their unnatural lust: but the Inhabitants of *Caraimar* and *Carib*, do drive astay the Dogs, for through their admirable activity in casting darts, they pierce the Dogs ere ever they come neer them with poysoned arrows. And thus much for the great warlike defensive Dogs.

In the next place followeth the Shepherds Dog, called by *Virgil*, *Pecuaris Canis*: and this cannot properly be tearmed a dumb keeper; for there is no creature that will more stir, bark, and move noise, then one of these against thief or wilde beast. They are also used by Heards-men, Swine-herds, and Goat-herds, to drive away all annoyances from their Cattel, and also to guide & govern them, in executing their masters pleasure upon signs given them, to which of the stragling Beasts they ought to make force. Neither is it requisite that this Dog be so large or nimble as is the Grey-hound, which is appointed for Deer and Hares.

But yet that he be strong, quick, ready, and understanding, both for brauling and fighting, so as he may fear away and also follow (if need be) the ravening Wolf, and take away the prey out of his mouth; wherefore a square proportion of body is requisite in these Beasts, and a tolerable lightness of foot, such as is the Village Dog, used only to keep houses, and hereof also they are the best, who have the greatest or loudest barking voyces, and are not apt to leap upon every stranger or beast they see, but reserve their strength till the just time of employment.

They approve also in this kinde above all other, the white colour; because in the night time they are the more easily discerned from the Wolf, or other noisome beast; for many times it falleth out, that the Shepherd in the twy-light, striketh his Dog instead of the Wolf: these ought to be well faced, black or dusky eyes, and correspondent nostrils of the same colour with their eyes, black ruddy lips, a crooked camoyse nose, a flat chap with two great broches, or long straight sharp teeth growing out thereof, covered with their lips, a great head, great ears, a broad brest, a thick neck; broad and solid shoulders, straight legs, yet rather bending inward then standing outward; great and thick feet, hard crooked nails, a thick tail which groweth lesser to the end thereof, then at

Blondus.
Of defending
Dogs.

Tzetzes.
Arrianus.

A cruel murder of a Queen by a Dog.

A most memorable story of the Dogs of Rhodes.

A story of the Dogs of Rhodes.

Aelianus.
Textor.
Pliny.
Pet. Martyr.
Deserved punishment of unnatural copulation.

The Shepherds Dogs.

Columella.

Blondus.

Fronto.

Strabo.

Varro.

Fronto.

The love of
Dogs to the
Cattel they
attend.

the first joint next the body, and the body all rugged with hair, for that maketh the Dog more terrible; and then also it is requisite that he be provided of the best breed, neither buy him of a Hunter (for such an one will be gone at the sight of a Deer or Hare) nor yet of a Butcher, for it will be sluggish; therefore take him young, and bring him up continually to attend Sheep, for so will he be most ready that is trained up among Shepherds.

They use also to cover their throat and neck with large broad collars, pricked through with nails, for else if the wilde beast bite them in those places, the Dog is easily killed: but being bitten at any other place he quickly avoideth the wound. The love of such to the Cattel they keep is very great, especially to Sheep; for when *Publius Aufidius Pontianus*, bought certain flocks of Sheep in the farthest part of *Umbria*, and brought Shepherds with him to drive them home; with whom the dogs went along unto *Heraclea*, and the *Metapontine* coasts, where the drovers left the Cattel; the Dogs for love of the Sheep yet continued and attended them, without regard of any man, and foraged in the fields for Rats and Mice to eat, untill at length they grew weary and lean, and so returned back again unto *Umbria* alone, without the conduct of men, to their first Masters, being many daies journey from them.

It is good to keep many of these together, at the least two for every flock, that so when one of them is hurt or sick, the herd be not destitute; and it is also good to have these male and female, yet some use to geld these, thinking that for this cause they will the more vigilantly attend the flock: howbeit I cannot assent hereunto, because they are too gentle and lesse eager when they want their stones. They are to be taken from their Dam at two moneths old, and not before: and it is not good to give them hot meat, for that wil encrease in them madness, neither must they taste any of the dead carcases of the Cattel, lest that cause them to fall upon the living; for when once they have taken a smatch of their bloud or flesh, you shall seldom reclaime them from that devouring appetite. The understanding of these Shepherds Dogs is very great, (especially in *England*) for the Shepherds will there leave their Dogs alone with the flocks, and they are taught by custom, to keep the Sheep within the compass of their pasture, and discern betwixt grasse and Corn, for when they see the Sheep fall upon the Corn, they run and drive them away from that forbidden fruit of their own accord; and they likewise keep very safely their Masters garments and victuals from all annoyance untill their return. There is in *Xenophon* a complaint of the Sheep to the Shepherds concerning these Dogs: We marvel (said the Sheep) at thee, that seeing we yeeld thee milk, Lambs, and Cheese, whereupon thou feedest; nevertheless thou givest unto us nothing but that which groweth out of the earth, which we gather by our own industry; and whereas the Dog doth none of all these, him thou feedest with thine own hand, and bread from thine own trencher. The Dog hearing this complaint of the Sheep, replied, That his reward at the Shepherds hand was just, and no more then he deserved, for (said he) I look unto you, and watch you from the ravening Wolf, and pilfering Theef, so as if once I forsake you, then it will not be safe for you to walke in your Pastures, for peril of death: whereunto the Sheep yeilded, and not replied to the reasonable answer of so unreasonable a beast; and this complaint you must remember was uttered when Sheep could speak, as well as men, or else it noteth the foolish murmuring of some vulgar persons, against the chief Ministers of state, that are liberally rewarded by the Princes own hands, for their watchful custody of the Common-wealth. And thus much for the Shepherds Dog.

A prey fable
of the Sheep
and the Dog.

Of the VILLAGE-DOG, or HOUSE-KEEPER.

The colour of
this Dog.

His Village Dog ought to be fatter and bigger then the Shepherds Dog, of an elegant, square and strong body, being black coloured, and great mouthed, or barking bigly, that so he may the more terrifie the Theef, both by day and night, for in the night the beast may seize upon the robber before he discern his black skin, and therefore a spotted, branded, party coloured Dog is not approved. His head ought to be the greatest part of his body, having great ears hanging down, and black eyes in his head; a broad breast, thick neck, large shoulders, strong legs, a rough hair, short tail, and great nails: his disposition must not be too fierce, nor yet too familiar, for so he will faun upon the Theef as well as his Masters friend. Yet is it good that sometime he rise against the household servants, and alway against strangers, and such they must be as can wind a stranger afar off, and descry him to his Master by barking as by a watch-word, and setting upon him, when he approacheth neer if he be provoked. *Blondus* commendeth in this kinde, such as sleep with one eye open and the other shut, so as any small noise or stir wake and raise him. It is not good to keep many of these curst Dogs together, and them few which be kept must be tyed up in the day time, that so they may be more vigilant in the night when they are let loose. There are of this kind which Mariners take with them to Sea, to preserve their goods on Ship-board, they chuse them of the greatest bodies and lowdest voice, like the *Croatian* Dog, resembling in hair and bigness, and such as are very watchful, according to the saying of the Poet:

Of Mariners
Dogs on ship-
board.

*Exagitant & lar, & turba Diania fures,
Pervigilantque lares, pervigilantque Canes.*

And such also they nourish in Towers and Temples; in Towers, that so they may descry the approaching enemy when the Souldiers are asleep; for which cause, Dogs seen in sleep, signifie the careful and watchful wife, servants, or Souldiers, which foresee dangers and preserve publick and private good.

There was in *Italy* a Temple of *Pallas*, wherein were reserved the axes, instruments, and armour of *Diomedes* and his Colleagues, the which Temple was kept by Dogs, whose nature was (as the Author saith) that when *Grecians* came to that Temple, they would faun upon them as if they knew them; but if any other Countrey men came, they shewed themselves wilde, fierce, and angry against them. The like thing is reported of a Temple of *Vulcan* in *Aetna*, wherein was preserved a perpetual and unquenchable fire, for the watching whereof, were Dogs designed; who would faun and gently flatter upon all those which came chafly and religiously to worship there, leading them into the Temple like the familiars of their God; but upon wicked and evill disposed leud persons, they barked and raged, if once they endeavoured so much as to enter either the Wood or Temple; but the true cause hereof was, the imposture of some impure and deceitful, unclean, diabolical spirits. And by the like instinct, *Scipio Africanus* was wont to enter into the Capitol, and command the Chappel of *Jupiter* to be opened to him, at whom no one of the Keepers Dogs would ever stir, which caused the Men keepers of the Temple much to marvel, whereas they would rage fiercely against all other: whereupon *Stroza* made these Verses, falsely imputing this demonical illusion to divine revelation.

Quid tacitos linquom quos veri haud nescia Crete

Nec semper mendax, ait aurea templa tuentes,

Parcereque haud ulli solitos, (mirabile dictu)

Dolia Iyanæi Aratos senioris ad ora

Non magico cantu, sed quod divinitus illis

Insita vis animo, virtutis gnara latentis.

The like strange thing is reported of a Temple or Church in *Cracovia*, dedicated to the *Virgin Mary*, wherein every night are an assembly of Dogs, which unto this day (saith the Author) meet voluntarily at an appointed hour, for the custody of the Temple, and those ornaments which are preserved therein against Theeves and Robbers: and if it fortune any of the Dogs be negligent and slack at the hour aforesaid, then will he bark about the Church untill he be let in, but his fellowes take punishment of him, and fall on him, biting and rending his skin, yea sometime killing him; and these Dogs have a set diet or allowance of dinner, from the Canons and Preachers of the Church, which they duely observe without breach of order; for to day two of them will goe to one Canons house, and two to anothers, and so likewise all the residue in turnes successively visit the severall houses within the Cloister yard, never going twice together to one house, nor preventing the refection of their fellowes; and the story is reported by *Antonius Schnebergerus* for certain truth, upon his own knowledge.

Of the *MIMICK*, or *GETULIAN-DOG*, and the little *MELITÆAN-DOGS* of Gentlewomen.



There is also in *England* two other sorts of Dogs, the

figure of the first is here expressed, being apt to imitate all things it seeth, for which cause some have thought that it was conceived by an Ape; for in wit and disposition it resembleth an Ape, but in face sharpe and black like a Hedge-hog, having a short recurved body, very long legs, shaggie hair, and a short tail: this is called of some (*Canis Lucernarius*) these being brought up with Apes in their youth, learn very admirable and strange feats, whereof there were great plenty in *Egypt* in the time of King *Ptolemy*, which were taught to leap and play, and dance, at the

Vegetius.

Artemidorus.

Aristotle.

Gyraldus.

Dogs keepers

of Temples.

Dion Chryso.

Gyraldus.

Calius.

Schneberg.

John Cay.

The first generation of Mimick Dogs.

The feats of Dogs.

the hearing of musick, and in many poor mens houses they served in stead of servants for divers uses.

Albertus.

These are also used by Players and Puppet-Mimicks to work strange tricks, for the sight whereof they get much money: such an one was the Mimicks dog, of which *Plutarch* writeth that he saw in a publick spectacle at *Rome* before the Emperor *Veipasian*. The Dog was taught to act a play, wherein were contained many persons parts, I mean the affections of many other Dogs: at last there was given him a piece of bread, wherein, as was said, was poison, having virtue to procure a dead sleep, which he received and swallowed: and presently after the eating thereof he began to reel and stagger to and fro like a drunken man, and fell down to the ground, as if he had been dead, and so lay a good space not stirring foot nor limb, being drawn up and down by divers persons, according as the gesture of the Play he acted did require, but when he perceived by the time and other signes that it was requisite to arise, he first opened his eyes, and lift up his head a little, then stretched forth himself like as one doth when he riseth from sleep; at the last up he getteth and runneth to him to whom that part belonged, not without the joy and good content of *Cesar* and all other the beholders.

To this may be added another story of a certain *Italian* about the year 1403. called *Andrew*, who had a red Dog with him of strange feats, and yet he was blind. For standing in the Market place, compassed about with a circle of many people, there were brought by the standers by many Rings, Jewels, Bracelets and pieces of gold and silver, and there within the circle were covered with earth, then the Dog was bid to seek them out, who with his nose and feet did presently find and discover them; then was he also commanded to give to every one his own Ring, Jewel, Bracelet, or money, which the blind Dog did perform directly without stay or doubt. Afterward the standers by, gave unto him divers pieces of coin, stamped with the images of sundry Princes, and then one called for a piece of *English* money, and the Dog delivered him a piece, another for the Emperors coin, and the Dog delivered him a piece thereof; and so consequently every Princes coin by name, till all was restored: and this story is recorded by *Abbas Urspergensis*, whereupon the common people said, the Dog was a Devill or else possessed with some Pythonical spirit: and so much for this Dog.

Strabo.
Of the Melitean Dogs.

There is a Town in *Pachynus*, a Promontory of *Sicily* (called *Melita*) from whence are transported many fine little Dogs called, *Melitei Canes*, they were accounted the Jewels of Women, but now the said Town is possessed by Fisher-men, and there is no such reckoning made of those tender little Dogs, for these are not bigger then common Ferrets, or Weasils, yet are they not small in understanding, nor mutable in their love to men: for which cause they are also nourished tenderly for pleasure; whereupon came the proverb, *Melitea Catella*, for one nourished for pleasure, and *Canis dignus throno*, because Princes hold them in their hands sitting upon their estate.

Ælianus.

Theodorus the tumbler and dancer had one of these, which loved him so well, that at his death he leaped into the fire after his body. Now a dayes, they have found another breed of little Dogs in all Nations, beside the *Melitean* Dogs, either made so by art, as inclosing their bodies in the earth when they are Whelps, so as they cannot grow great, by reason of the place, or else, lessening and impaying their growth, by some kind of meat or nourishment. These are called in *Germany*, *Bracken Schosshundle* and *Gutschenbundle*; the *Italians*, *Bottolo*; other Nations have no common name for this kind that I know. *Martial* made this Distichon of a little *French* Dog; for about *Lions* in *France* there are store of this kinde, and are sold very dear; sometimes for ten Crowns, and sometimes for more.

Blondus.
The art of making of little Dogs.

*Delicias parvæ si vis audire catellæ,
Narranti brevis est pagina tota mihi.*

They are not above a foot, or half a foot long, and alway the lesser the more delicate and precious. Their head like the head of a Mouse but greater, their snout sharp, their ears like the ears of a Cony, short legs, little feet, long tail, and white colour, and the hairs about the shoulders longer then ordinary, is most commended. They are of pleasant disposition, and will leap and bite without pinching, and bark prettily, and some of them are taught to stand upright holding up their fore legs like hands; other to fetch and carry in their mouths, that which is cast unto them.

There be some wanton women which admit them to their beds, and bring up their young ones in their own bosomes, for they are so tender, that they seldom bring above one at a time, but they lose their life. It was reported that when *Grego* in *Syracuse* was to go from home among other Gossips, she gave her maid charge of two things, one that she should look to her childe when it cryed, the other that she should keep the little Dog within doors.

Publius had a little Dog (called *Iffa*) having about the neck two silver bells, upon a silken Collar, which for the neatness thereof, seemed rather to be a picture then a creature; whereof *Martial* made this elegant Epigram, comprehending the rare voice and other gestures in it.

*Issa est purior osculo columbae,
Issa est blandior omnibus puellis,
Issa est carior Indicis lapillis,
Issa est deliciae catella Publii.
Hanc tu, si queritur, loqui putabis,
Sentit tristitiamque gaudiumque.
Collo nexa cubat capitque somnos,
Ut suspiria nulla sentiantur,
Et desiderio coacta ventris
Gutta pallia, non fefellit ulla.*

*Sed blando pede suscit at toroque
Deponi monet, & rogat levare.
Caste tantus inest pudor catellae.
Hanc ne lux rapiat suprema totam;
Picam Publius exprimit tabella,
In qua tam similem vides Issam,
Ut sit tam similis sibi nec ipsa,
Issam denique pone cum tabella,
Aut utramque putabis esse veram,
Aut utramque putabis esse picam.*

Marcellus Empiricus reciteth a certain charm, made of the rinde of a wilde Figtree, held to the Spleen or Liver of a little Dog, and afterward hanged up in the smoak to dry, and pray that as the rind or bark dryeth, so the Liver or Spleen of the Dog may never grow; and thereupon the Dog (saith that foolish Emperick) shall never grow greater, then it was at the time that the bark was hanged up to drying. To let this trifle go, I will end the discourse of these little Dogs with one story of their love and understanding.

There was a certain noble Woman in *Sicily*, which understanding her husband was gone a long journey from home, sent to a lover (I should say an Adulterer) she had, who came, and by bribery and money given to her servants, she admitted him to her bed, but yet privately, more for fear of punishment, then care of modesty; and yet for all her craft, she mistrusted not her little Dog, who did see every day where she locked up this Adulterer: at last, her husband came home, before her lover was avoided, and in the night the little Dog seeing his true Master returned home, ran barking to the door and leaped up thereupon (within which the Whoremonger was hidden) and this he did oftentimes together, fauning and scraping his Lord and Master also; in so much as he mistrusted (and that justly) some strange event: at last, he brake open the door, and found the Adulterer ready armed with his sword, wherewithal he slew the good man of the house unawares; and so enjoyed the Adulterate woman for his wife: for Murther followeth if it go not before Adultery. This story is related by *Ælianus* to set forth a virtue of these little Dogs, how they observe the actions of them that nourish them, and also some discretion betwixt good and evill.

Ælianus.
A lamentable
story of the
discovery of an
Adulterer by a
little Dog.

The Dogs of *Egypt* are most fearful of all other, and their custome is to run and drink, or drink of the River *Nilus* running, for fear of the Crocodiles: whereupon came the Proverb, of a man that did any thing slightly or hastily, *Ut Canis e Nilo bibit.* *Alcibiades* had a Dog which he would not sell under 28 thousand *Sesterces*, that is, seven hundred *French Crowns*; it was a goodly and beautiful Dog, yet he cut off his tail, whereof he gave no other reason, being demanded why he so blemished his beast, but only that by that fact he might give occasion to the *Athenians* to talke of him.

Ælianus.
Solinus.

Pollux.

The Dogs of *Caramania* can never be tamed, for their men also are wilde and live without all Law and Civility: and thus much of Dogs in special. In the next place I thought good to insert into this story the Treatise of *English Dogs*, first of all written in *Latin* by that famous Doctor in Physick *John Gay*, and since translated by *A. F.* and directed to that noble *Gesner*, which is this that followeth, that so the Reader may chuse whether of both to affect best.

Ælianus.

The Preamble or Entrance into the Treatise following.

I Wrote unto you (well beloved friend *Gesner*) not many years past, a manifold history, containing the divers forms and figures of Beasts, Birds, and fishes, the sundry shapes of Plants, and the fashions of Herbs, &c.

I wrote moreover unto you severally, a certain abridgement of Dogs, which in your discourse upon the formes of Beasts in the second order of milde and tamable beasts, where you make mention of Scottish Dogs, and in the winding up of your Letter written and directed to Doctor *Turner*, comprehending a Catalogue or rehearsal of your Books not yet extant, you promised to set forth in print, and openly to publish in the face of the world among such your works as are not yet come abroad to light and sight. But because certain circumstances were wanting in my breviary of *English Dogs* (as seemed unto me) I stayed the publication of the same, making promise to send another abroad, which might be committed to the hands, the eyes, the ears, the minds, and the judgments of the Readers.

Wherefore that I might perform that precisely, which I promised solemnly, accomplish my determination, and satisfie your expectation: which are a man desirous and capable of all kind of knowledge, and very earnest to be acquainted with all experiments: I will expresse and declare in due order, the grand and general kind of *English Dogs*, the difference of them, the use, the properties, and the divers natures of the same, making a tripartite division in this sort and manner. All *English Dogs* be either of a gentle kinde serving the game, a homely kinde apt for sundry necessary uses, or a currish kind, meet for many toies.

Of

Of these three sorts or kinds so mean I to entreat, that the first in the first place, the last in the last room, and the middle sort in the middle seat be handled. I call them universally all by the name of *English Dogs*, as well because *England* only, as it hath in it *English Dogs*, so it is not with the *Scotish*, as also for that we are inclined and delighted with the noble game of hunting, for we *Englishmen* are addicted and given to that exercise and painful pastime of pleasure, as well for the plenty of flesh which our Parks and Forrests do foster, as also for the opportunity and convenient leisure which we obtain; both which the *Scots* want. Wherefore seeing that the whole estate of kindly hunting consisteth principally in these two points, in chasing the beast that is in hunting, or in taking the bird that is in fowling; It is necessary and requisite to understand that there are two sorts of Dogs by whose means the feats within specified are wrought, and these practises of activity cunningly and curiously compassed, by two kinds of Dogs, one which rouseth the beast and continueth the chase, another which springeth the bird, and bewrayeth the flight by pursute. Both which kinds are termed of the *Latins* by one common name, that is, *Canes Venatici*, hunting Dogs. But because we *Englishmen* make a difference between hunting and fowling, for they are called by these several words, *Venatio*, & *Aucupium*, so they term the Dogs whom they use in these sundry games by diuers names, as those which serve for the beast, are called *Venatici*, the other which are used for the fowl are called *Aucuparii*.

The first kinde called *Venatici* I divide into five sorts, the first in perfect smelling, the second in quick spying, the third in swiftness and quickness, the fourth in smelling and nimbleness, the fifth in subtilty and deceitfulness, herein these five sorts excell.

Of the *DOG* called a *HARRIER*; in *Latin*, *Leverarius*.

That kinde of Dog whom nature hath endued with the virtue of smelling, whose property it is to use a lustiness, a readiness, and a couragiousness in hunting, and draweth into his nostrils the air or sent of the beast pursued and followed, we call by this word *Sagax*, the *Grecians* by this word *Tekneuten* of tracing or chasing by the foot, or *Rinelaten*, of the nostrils, which be the instruments of smelling. We may know these kinde of Dogs by their long, large and bagging lips, by their hanging ears, reaching down both sides of their chaps, and by the indifferent and measurable proportion of their making. This sort of Dogs we call *Leverarios*, *Harriers*, that I may comprise the whole number of them in certain specialities, and apply to them their proper and peculiar names, for so much as they cannot all be reduced and brought under one sort, considering both the sundry uses of them, and the difference of their service whereto they be appointed. Some for the Hare, the Fox, the Wolf, the Hart, the Buck, the Badger, the Otter, the Polcat, the Lobster, the Weasell, the Cony, &c. Some for one thing and some for another.

As for the Cony, whom we have lastly set down, we use not to hunt, but rather to take it, sometime with the net, sometime with a Ferret, and thus every several sort is notable and excellent in his natural quality and appointed practise. Among these sundry sorts, there be some which are apt to hunt two diuers beasts, as the Fox other whiles, and other whiles the Hare, but they hunt not with such towardness and good luck after them, as they do that whereunto nature hath formed and framed them, not only in external composition and making, but also in inward faculties and conditions, for they swarve oftentimes, and do otherwise then they should.

Of the *DOG* called a *TERRAR*; in *Latin*, *Terrarius*.

Another sort there is which hunteth the Fox, and the Badger, or Gray only, whom we call *Terrars*, because they (after the manner and custom of Ferrets in searching for Conies) creep into the ground, and by that means make afraid, nip, and bite the Fox and the Badger in such sort, that either they tear them in pieces with their teeth, being in the bosom of the earth, or else hale and pull them perforce out of their lurking Angles, darke dungeons, and close caves, or at the least through conceived fear, drive them out of their hollow harbors, in so much that they are compelled to prepare speedy flight, and being desirous of the next (albeit not the safest) refuge, are otherwise taken and intrapped with snares and nets laid over holes to the same purpose. But these be the least in that kinde called *Sagaces*.

Of the *DOG* called a *BLOOD-HOUND*; in *Latin*, *Sanguinarius*.

The greater sort which serve to hunt, having lips of a large size, and eares of no small length, do not only chase the beast whiles it liveth (as the other do of whom mention above is made) but being dead also by any manner of casualty, make recourse to the place where it lyeth, having in this point an assured and infallible guide; namely, the sent and savour of the blood sprinkled here and there upon the ground. For whether the beast being wounded, doth notwithstanding enjoy life, and escapeth the hands of the huntsman, or whether the said beast being slain is conveyed cleanly out of the Park (so that there be some signification of blood shed) these Dogs with no lesse

lesse facility and easiness, then avidity and greediness can disclose and bewray the same by smelling, applying to their pursuite, agility and nimbleness, without tediousness; for which consideration, of a singular specialty they deserved to be called *Sanguinari* Blood-hounds. And albeit peradventure it may chance, (as whether it chanceth seldom or sometime I am ignorant) that a piece of flesh be subtilly stolne, and cunningly conveyed away with such provisos and pre-cautions, as thereby all appearance of blood is either prevented, excluded, or concealed, yet these kinde of Dogs by certain direction of an inward assured notice and privie mark, pursue the deed-doers, through long lanes, crooked reaches, and weary wayes, without wandering awry out of the limits of the land whereon these desperate purloiners prepared their speedy passage. Yea, the natures of these Dogs is such, and so effectual is their foresight, that they can bewray, separate, and pick them out from among an infinite multitude and an innumerable company, creep they never so far into the thickest throng, they will finde him out notwithstanding he lie hidden in wilde Woods, in close and overgrown Groves, and lurk in hollow holes apt to harbour such ungracious guests.

Moreover, although they should passe over the water, thinking thereby to avoid the pursuite of the Hounds, yet will not these Dogs give over their attempt, but presuming to swim through the stream, persevere in their pursuite, and when they be arrived and gotten the further banck, they hunt up and down, to and fro run they, from place to place shift they, until they have attained to that plot of ground where they passed over. And this is their practise, if perdy they cannot at the first time smelling, finde out the way which the deed-doers took to escape. So at length get they that by art, cunning, and diligent endeavour, which by fortune and luck they cannot otherwise overcome. In so much as it seemeth worthily and wisely written by *Ælianus* in his 6. Book and 39. Chapter, *To enthumaticon kai dialecticon*, to be as it were naturally instilled into these kind of Dogs. For they will not pause or breathe forth from their pursuite untill such time as they be apprehended and taken which committed the fact.

The owners of such Hounds use to keep them in close and dark kennels in the day, and let them loose at liberty in the night season, to the intent that they might with more courage and boldness practise to follow the fellow in the evening and solitary hours of darkness, when such ill disposed varlets are principally purposed to play their impudent pranks. These Hounds (upon whom this present portion of our treatise runneth) when they are to follow such fellows as we have before rehearsed, use not that liberty to range at will, which they have otherwise when they are in game, (except upon necessary occasion whereon dependeth an urgent and effectual perswasion) when such purloyners make speedy way in flight, but being restrained and drawn back from running at random with the leame, the end whereof the owner holding in his hand is led, guided and directed with such swiftness and slowness (whether he go on foot, or whether he ride on horseback) as he himself in heart would wish for the more easie apprehension of these venturous varlets.

In the borders of *England* and *Scotland*, (the often and accustomed stealing of Cattel so procuring) these kind of Dogs are very much used, and they are taught and trained up first of all to hunt Cattel, as well of the smaller as of the greater growth, and afterwards (that quality relinquished and left) they are learned to pursue such pestilent persons as plant their pleasure in such practises of purloining as we have already declared. Of this kind there is none that taketh the Water naturally, except it please you so to suppose of them which follow the Otter, which sometimes haunt the land, and sometime useth the water. And yet nevertheless all the kinde of them boyling and broyling with greedy desire of the prey which by swimming passeth through river and flood, plunge amidst the water and passe the stream with their paws.

But this property proceedeth from an earnest desire wherewith they be inflamed, rather than from any inclination, issuing from the ordinance and appointment of nature. And albeit some of this sort in *English* be called *Brache*, in *Scotish*, *Rache*, the cause thereof resteth in the she-sex, and not in the general kinde. For we *Englishmen* call Bitches belonging to the hunting kind of Dogs, by the tearm above mentioned. To be short, it is proper to the nature of Hounds, some to keep silence in hunting untill such time as there is game offered. Other some so soon as they smell out the place where the beast lurketh, to bewray it immediately by their importunate barking, notwithstanding it be far and many furlongs off, couching close in his cabbin. And these Dogs the younger they be, the more wantonly bark they, and the more liberally; yet oftentimes without necessity, so that in them, by reason of their young years and want of practise, small certainty is to be reposed. For continuance of time, and experience in game, ministrereth to these Hounds, not only cunning in running, but also (as in the rest) an assured foresight what is to be done principally, being acquainted with their Masters watchwords, either in revoking or imboldening them to serve the game.

Of the *DOG* called the *GASE-HOUND*; in *Latin*, *Agaseus*.

THis kinde of Dog which pursueth by the eye, prevaieth little, or never a whit, by any benefit of the nose, that is by smelling, but excelleth in perspicuity and sharpeness of sight altogether, by the virtue whereof, being singular and notable, it hunteth the Fox and the Hare. This Dog will chase and separate any beast from among a great flock or herd, and such a one will it take by election as is not lanck, lean and hollow, but well spread, smooth, full, fat, and round, it followes by direction of the eyesight, which indeed is clear, constant, and not uncertain; if a beast be wounded and go astray, the Dog seeketh after it by the stedfastness of the eye, if it chance peradventure to return and be mingled with the residue of the flock, this Dog spyeth it out by virtue of his eye, leaving the rest of the Cattell untouched, and after he hath set sure sight upon it, he separateth it from among the company, and having so done, never ceaseth untill he have wearyed the Beast to death.

Our Countreymen call this Dog *Agaseum*, a Gase-hound, because the beams of his sight are so stedfastly settled and unmoveably fastned. These Dogs are much and usually occupied in the Northern parts of *England* more then in the Southern parts, and in fieldy lands rather then in bushie and woody places, horsemen use them more then footmen, to the intent that they might provoke their horses to a swift gallop (wherewith they are more delighted then with the prey it self) and that they might accustom their Horse to leap over hedges and ditches, without stop or stumble, without harme or hazard, without doubt or danger, and to escape with safegard of life. And to the end that the riders themselves, when necessity so constrained, and the fear of further mischief enforced, might save themselves undammified, and prevent each perilous tempest by preparing speedy flight, or else by swift pursuite made upon their enemies, might both overtake them, encounter with them, and make a slaughter of them accordingly. But if it fortune so at any time that this Dog take a wrong way, the Master making some usual signe and familiar token, he returneth forthwith, and taketh the right and ready race, beginning his chase afresh, and with a clear voice, and a swift foot followeth the game with as much courage and nimbleness as he did at the first.

Of the *DOG* called the *GRAY-HOUND*; in *Latin*, *Leporarius*.

WE have another kinde of Dog, which for his incredible swiftness is called *Leporarius*, a Gray-hound; because the principal service of them dependeth and consisteth in starting and hunting the Hare, which Dogs likewise are indued with no lesse strength then lightness in maintenance of the game, in serving the chase, in taking the Duck, the Hart, the Doe, the Fox, and other beasts of semblable kinde ordained for the game of hunting. But more or lesse, each one according to the measure and proportion of their desire, and as might and hability of their bodies will permit and suffer.

For it is a spare and bare kind of Dog, (of flesh but not of bone) some are of a greater sort, and some of a lesser, some are smooth skinned, and some are curled, the bigger therefore are appointed to hunt the bigger beasts, and the smaller serve to hunt the smaller accordingly. The nature of the Dogs I finde to be wonderful by the testimony of all Histories. For, as *John Froisart* the Historiographer in his 4 lib. reporteth, A Gray-hound of King *Richard* the second that wore the Crown, and bare the Scepter of the Realm of *England*, never knowing any man, besides the Kings person, when *Henry Duke of Lancaster* came to the Castle of *Flint* to take King *Richard*, the Dog forsaking his former Lord and Master came to Duke *Henry*, fauned upon him with such resemblances of good will and conceived affection, as he favoured King *Richard* before: he followed the Duke, and utterly left the King. So that by these manifold circumstances a man might judge his Dog to have been lightened with the lamp of foreknowledge and understanding, touching his old Masters miseries to come, and unhappiness nigh at hand, which King *Richard* himself evidently perceived, accounting this deed of his Dog a Prophecy of his overthrow.

Of the *DOG* called the *LEVINER*, or *LYEMMER*; in *Latin*, *Lorarius*.

ANother sort of Dogs be there, in smelling singular, and in swiftness incomparable. This is (as it were) a middle kinde betwixt the Harrier and the Gray-hound, as well for his kind, as for the frame of his body. And it is called in *Latin*, *Levinarius*, a Levitate, of lightness, and therefore may well be called a Light-hound; it is also called by this word *Lorarius*, a Loro, wherewith it is led. This Dog for the excellency of his conditions, namely smelling and swift running, doth follow the game with more eagerness, and taketh the prey with a jolly quickness.

Of the *DOG* called a *TUMBLER*; in *Latin*, *Vertagus*.

THis sort of Dogs, which compasseth all by crafts, fraudes, and subtilties and deceits, we *Englishmen* call Tumblers, because in hunting they turn and tumble, winding their bodies about in circle wise, and then fiercely and violently venturing upon the beast, doth suddenly gripe it, at the very entrance and mouth of their receptacles, or closets before they can recover means, to save and succour themselves. This Dog useth another craft and subtilty, namely, when he runneth into a Warren, or fetcheth a course about a Conyburrough, he hunts not after them, he frayes them not by barking, he makes no countenance or shadow of hatred against them, but dissembling friendship, and pretending favour, passeth by with silence and quietness, marking and noting their holes diligently, wherein (I warrant you) he will not be overshot nor deceived. When he cometh to the place where Conies be of a certainty, he croucheth down close with his belly to the ground, provided alwayes by his skill and policy, that the winde be never with him but against him in such an enterprise; and that the Conies spy him not where he lurketh. By which means he obtaineth the scent and savour of the Conies, carried towards him with the winde and the air, either going to their holes or coming out, either passing this way, or running that way, and so provideth by his circumspection, that the silly simple Cony is debarred quite from his hole (which is the haven of their hope, and the harbour of their health) and fraudulently circumvented and taken, before they can get the advantage of their hole. Thus having caught his prey, he carryeth it speedily to his Master, waiting his Dogs return in some convenient lurking corner.

These Dogs are somewhat lesser then the Hounds, and they be lancker and leaner, beside that they be somewhat prick-eared. A man that shall marke the form and fashion of their bodies, may well call them mungrel Gray-hounds if they were somewhat bigger. But notwithstanding they countervail not the Grey-hound in greatness, yet will he take in one dayes space as many Conies as shall arise to as big a burthen, and as heave a load as a horse can carry, for deceit and guile is the instrument whereby he maketh this spoil; which pernicious properties supply the places of more commendable qualities.

Of the *DOG* called the *THEEVISH DOG*, in *Latin*, *Canis furax*.

THe like to that whom we have rehearsed, is the Theevish Dog, which at the mandate and bidding of his Master fleereth and leereth abroad in the night, hunting Conies by the air, which is leavened with the savour and conveyed to the sense of smelling by the means of the winde blowing towards him. During all which space of his hunting, he will not bark, lest he should be prejudicial to his own advantage. And thus watcheth and snatcheth up in course as many Conies as his Master will suffer him, and beareth them to his Masters standing. The Farmers of the Countrey and uplandish dwellers, call this kind of Dog a Night Cur, because he hunteth in the dark. But let thus much seem sufficient for Dogs which serve the game and disport of hunting.

Of Gentle *DOGS* serving the Hawk, and first of the *SPANIEL*, called in *Latin*, *Hispaniolus*.

Such Dogs as serve for fowling, I think convenient and requisite to place in the second Section of this treatise. These are also to be reckoned and accounted in the number of the Dogs which come of a gentle kind: and of those which serve for fowling, there be two sorts, the first findeth game on the land, the other findeth game on the water. Such as delight on the land, play their parts, either by swiftness of foot, or by often questing, to search out and to spring the bird for further hope of advantage, or else by some secret sign and privy token bewray the place where they fall. The first kind of such serve the Hawk, the second the net or train. The first kind have no peculiar names assigned unto them, save only that they be denominated after the bird which by natural appointment he is allotted to take; for the which consideration, some be called Dogs for the Falcon, the Pheasant, the Partridge, and such like. The common sort of people call them by one general word, namely Spaniels; as though these kind of Dogs came originally and first of all out of *Spain*. The most part of their skins are white, and if they be marked with any spots they are commonly red, and somewhat great therewithall, the hairs not growing in such thickness but that the mixture of them may easily be perceived. Othersome of them be reddish and blackish, but of that sort there be but a very few. There is also at this day among us a new kind of Dog brought out of *France* (for we *Englishmen* are marvellous greedy gaping gluttons after novelties, and coverous cormorants of things that be seldom, rare, strange, and hard to get) and they be speckled all over with white and black, which mingled colours incline to a marble blew, which beautifieth their skins, and affordeth a seemly show of comeliness. These are called *French Dogs*, as is above declared already.

The *DOG* called the *SETTER*; in *Latin*, *Index*.

A Nother sort of Dogs be there, serviceable for fowling, making no noise either with foot or with tongue, whiles they follow the game. These attend diligently upon their Master and frame their conditions to such becks, motions, and gestures, as it shall please him to exhibite and make, either going forward, drawing backward, inclining to the right hand, or yeelding toward the left. (in making mention of fowles, my meaning is of the Partridge and the Quail;) when he hath found the bird, he keepeth sure and fast silence, he stayeth his steps and will proceed no further; and with a close, covert, watching eye, layeth his belly to the ground and so creepeth forward like a worm. When he approacheth neer to the place where the bird is, he lies him down, and with a mark of his pawes betrayeth the place of the birds last abode; whereby it is supposed that this kind of Dog is called *Index*, Setter, being indeed a name most consonant and agreeable to his quality. The place being known by the means of the Dog, the fowler, immediately openeth and spreadeth his net, intending to take them; which being done, the Dog at the custumed beck or usuall sign of his Master riseth up by and by, and draweth neerer to the fowle, that by his presence they might be the authors of their own insnaring, and be ready intangled in the prepared net, which cunning and artificial endeavour in a Dog (being a creature domestical or household servant, brought up at home with offals of the trencher, and fragments of victuals) is not so much to be marvelled at, seeing that a Hare (being a wilde and skippish beast) was seen in *England* to the astonishment of the beholders, in the year of our Lord God 1564. not only dancing in measure, but playing with his former feet upon a tabbaret, and observing just number of strokes (as a practitioner in that art) besides that nipping and pinching a Dog with his teeth and claws, and cruelly thumping him with the force of his feet. This is no trumpery tale, nor trifle toy (as I imagine) and therefore not unworthy to be reported, for I reckon it a requital of my travell, not to drown in the seas of silence any special thing, wherein the providence and effectual working of nature is to be pondered.

Of the *DOG* called the *WATER SPANIEL*, or *FINDER*; in *Latin*, *Aquaticus seu Inquisitor*.

That kinde of Dog whose service is required in fowling upon the water, partly through a natural towardness, and partly by diligent teaching, is indued with that property. This sort is somewhat big, and of a measurable greatness, having long, rough, and curled hair, not obtained by extraordinary trades, but given by natures appointment; yet nevertheless (friend *Gesner*) I have described and set him out in this manner, namely powled and notted from the shoulders to the hindmost legs, and to the end of his tail, which I did for use and customs cause, that being as it were made somewhat bare and naked, by shearing off such superfluity of hair, they might achieve the more lightness, and swiftness, and be lesse hindered in swimming, so troublesome and needlesse a burden being shaken off. This kinde of Dog is properly called *Aquaticus*, a Water Spaniel, because he frequenteth and hath usual recourse to the water where all his game lyeth, namely water fowls, which are taken by the help and service of them, in their kind. And principally Ducks and Drakes, whereupon he is likewise named a Dog for the Duck, because in that quality he is excellent. With these Dogs also we fetch out of the water such fowl as be stung to death by any venomous Worm; we use them also to bring us our bolts and arrows out of the water (missing our mark) whereat we directed our levell, which otherwise we should hardly recover, and oftentimes they restore to us our shafts which we thought never to see, touch, or handle again, after they were lost: for which circumstances they are called *Inquisitores*, searchers and finders. Although the Duck otherwhiles notably deceiveth both the Dog and the Master, by diving under the water, and also by natural subtilty, for if any man shall approach to the place where they build, breed and sit, the Hens go out of their nests, offering themselves voluntarily to the hands, as it were, of such as draw neer their nests. And a certain weakness of their wings pretended, and infirmity of their feet dissembled, they go slowly and so leasurely, that to a mans thinking it were no masterie to take them. By which deceitful trick they do as it were entise and allure men to follow them, till they be drawn a long distance from their nests, which being compassed by their provident cunning, or cunning providence, they cut off all inconveniences which might grow of their return, by using many careful and curious caveats, lest their often hunting bewray the place where the young ducklings be hatched. Great therefore is their desire, and earnest is their study to take heed, not only to their brood, but also to themselves. For when they have an inkling that they are espied, they hide themselves under turfes or sedges, wherewith they cover and shroud themselves so closely and so craftily, that (notwithstanding the place where they lurk be found and perfectly perceived) there they will harbour without harm, except the Water Spaniel by quick smelling discover their deceipts.

Of the *DOG* called the *FISHER*; in *Latin*
Canis Piscator.

THe Dog called the Fisher, whereof *Heſtor Boetius* writeth, which seeketh for Fiſh by ſmel-
ling among rocks and ſtones, aſſuredly I know none of that kind in *England*, neither have I
received by report that there is any ſuch, albeit I have been diligent and buſie in demanding
the queſtion as well of Fiſhermen as alſo huntſmen in that behalf, being careful and earneſt to
learn and underſtand of them if any ſuch were, except you hold opinion that the Beaver or Otter is
a Fiſh (as many have believed) and according to their belief affirmed, as the bird *Pupine*, is
thought to be a fiſh, and ſo accounted. But that kind of Dog which followeth the fiſh to apprehend
and take it (if there be any of that diſpoſition and property) whether they do this thing for the
game of hunting, or for the heat of hunger, as other Dogs do which rather then they will be fami-
ſhed for want of food, cover the carcaſes of carrion and putriſied fleſh. When I am fully reſolved
and diſburthened of this doubt, I will ſend you certificate in writing. In the mean ſeaſon I am not
ignorant of that both *Aelianus* and *Aetius*, call the Beaver *Kunapotamion* a water Dog, or a Dog-fiſh,
I know likewiſe thus much more, that the Beaver doth participate this property with the Dog,
namely, that when fiſhes be ſcarce they leave the water and range up and down the land, making an
inſatiable ſlaughter of young Lambs untill their paunches be replenished, and when they have fed
themſelves full of Fleſh, then return they to the water from whence they came. But albeit ſo much
be granted that this Bever is a Dog, yet it is to be noted that we reckon it not in the bea-
drow of *Engliſh* Dogs as we have done the reſt. The ſea Calfe, in like manner, which our Countrey men
for brevity ſake call a Seel, other more largely name a *Sea Veale*, maketh a ſpoil of fiſhes between
rocks and banks, but it is not accounted in the Catalogue or number of our *Engliſh* Dogs, notwith-
ſtanding we call it by the name of a Sea-Dog, or a Sea-Calf. And thus much for our Dogs of the
ſecond ſort, called in *Latin*, *Ancupatorii*, ſerving to take fowl either by land or water.

Of the delicate, neat, and prety kind of *DOGS* called the *SPANIEL GENTLE*,
or the *COMFORTER*; in *Latin*, *Melitaus*, or *Fotor*.

THere is beſides thoſe which we have already delivered, another ſort of Gentle Dogs in this
our *Engliſh* ſoil, but exempted from the order of the reſidue, the Dogs of this kind doth
Callimachus call *Melitaos* of the Iſland *Melita*, in the ſea of *Sicily* (which at this day is named
Malta) an Iſland indeed, famous and renowned with couragious and puiſſant Souldiers, valiantly figh-
ting under the banner of Chriſt their unconquerable Captain) where this kind of Dogs had their
principal beginning.

Theſe Dogs are little, prety, proper, and fine, and ſought for to ſatiſſie the delicatenes of dainty
dames and wanton womens wils, inſtruments of folly for them to play and dally withal, to triſſe
away the treaſure of time, to withdraw their mindes from more commendable exerciſes, and to
content their corrupted concupiſcences with vain diſport (a ſilly ſhift to ſhun irkſome idleneſs.)
Theſe puppies the ſmaller they be, the more pleaſure they provoke, as more meet playfellows
for miſſing miſtreſſes to bear in their boſomes, to keep company withal in their Chambers, to
ſuccour with ſleep in bed, and nourish with meat at bord, to lay in their laps, and lick their lips
as they ride in their Waggonſ: and good reaſon it ſhould be ſo, for courſeneſs with fineneſs hath no
fellowſhip, but featneſs with neatneſs hath neighbourhood enough. That plauſible proverb veri-
fied upon a Tyrant, namely, that he loved his Sow better then his Son, may well be applied to
theſe kind of people, who delight more in Dogs that are deprived of all poſſibility of reaſon,
then they do in children that be capeable of wiſdom and judgement. But this abuſe peradven-
ture reigneth where there hath been long lack of iſſue, or elſe where barrenneſs is the beſt
bloſſom of beauty.

The virtue which remaineth in the *SPANIEL GENTLE*, otherwiſe
called the *COMFORTER*.

Notwithſtanding many make much of thoſe prety puppies called Spaniels Gentle, yet if the
queſtion were demanded what property in them they ſpie, which ſhould make them ſo ac-
ceptable and precious in their ſight, I doubt their answer would be long a coining. But ſeeing
it was our intent to travail in this treatiſe, ſo, that the Reader might reap ſome benefit by his
reading, we will communicate unto ſuch conjectures as are grounded upon reaſon. And
though ſome ſuppoſe that ſuch Dogs are fit for no ſervice, I dare ſay, by their leaves, they be in a
wrong box. Among all other qualities therefore of nature, which be known (for ſome conditions are
covered with continual and thick clouds, that the eye of our capacities cannot pierce through them)
we finde that theſe little Dogs are good to aſſwage the ſickneſs of the ſtomach, being oftentimes
thereunto applied as a plaſter preſervative, or born in the boſom of the diſeaſed and weak perſon;
which

which effect is performed by their moderate heat. Moreover the disease and sickness changeth his place and entrench (though it be not precisely marked) into the Dog, which to be truth, experience can testify, for these kind of Dogs sometimes fall sick, and sometimes die, without any harme outwardly enforced, which is an argument that the disease of the Gentleman, or Gentlewoman or owner whatsoever, entrench into the Dog by the operation of heat intermingled and infected. And thus have I hitherto handled Dogs of a gentle kind whom I have comprehended in a triple division. Now it remaineth that I annex in due order, such Dogs as be of a more homely kinde.

Dogs of a course kinde serving many necessary uses, called in *Latin Canes rustici*, and first of the *Shepherds Dog*, called in *Latin, Canis Pastoralis*.

THe first kinde, namely the Shepherds hound, is very necessary and profitable for the avoiding of harmes, and inconveniences which may come to men by the means of beasts. The second sort serve for succour against the snares and attempts of mischievous men. Our Shepherds Dog is not huge, vast and big, but of an indifferent stature and growth, because it hath not to deal with the bloudthirsty Wolfe, sithence there be none in *England*, which happy and fortunate benefit is to be ascribed to the puissant Prince *Edgar*, who to the intent that the whole Countrey might be evacuated and quite cleared from Wolves, charged and commanded the *Welshmen* (who were pestered with these butcherly beasts above measure) to pay him yearly tribute (note the wisdom of the King) three hundred Wolves. Some there be which write that *Ludwal* Prince of *Wales* paid yearly to King *Edgar* three hundred Wolves in the name of an exaction (as we have said before.) And that by the means hereof, within the compass and term of four years, none of those noisom and pestilent beasts were left in the coasts of *England* and *Wales*. This *Edgar* wore the Crown royal, and bare the Scepter imperial of this Kingdom, about the year of our Lord Nine hundred fifty nine. Since which time we read that no Wolf hath been seen in *England*, bred within the bounds and borders of this Countrey, marry there have been divers brought over from beyond the Seas, for greediness of gain and to make money, for gazing and gaping, staring and standing to see them, being a strange beast, rare, and seldom seen in *England*. But to return to our Shepherds Dog: This Dog either at the hearing of his Masters voice, or at the wagging and whistling in his fist, or at his shrill and hoarse hissing bringeth the wandering weathers and straying Sheep into the self same place where his Masters will and wish is to have them, whereby the Shepherd reapeth this benefit, namely that with little labour and no toil or moving of his feet he may rule and guide his flock, according to his own desire, either to have them go forward, or to stand still, or to draw backward, or to turn this way, or take that way. For it is not in *England*, as it is in *France*, as it is in *Flanders*, as it is in *Syria*, as it is in *Tartaria*, where the Sheep follow the Shepherd, for here in our Countrey the Shepherd followeth the Sheep. And sometimes the straying Sheep when no Dog runneth before them, nor goeth about and beside them, gather themselves together in a flock, when they hear the Shepherd whistle in his fist, for fear of the Dog (as I imagine) remembering this (if unreasonable creatures may be reported to have memory) that the Dog commonly runneth out at his Masters warrant which is his whistle. This have we oftentimes diligently marked in taking our journey from Town to Town, when we have heard a Shepherd whistle we have rained in our horse and stood still a space, to see the proof and tryall of this matter. Furthermore, with this Dog doth the Shepherd take Sheep for the slaughter, and to be healed if they be sick, no hurt or harm in the world done to the simple creature.

Of the *MASTIVE*, or *BANDOG*; called in *Latin, Villaticus*, or *Catenarius*.

THis kind of Dog called a Mastive or Bandog is vast, huge, stubborn, ugly, and eager, of a heave and bourthenous body, and therefore but of little swiftness, terrible, and frightful to behold, and more fierce and fell then any *Arcadian* cur (notwithstanding they are said to have their generation of the violent Lion.) They are called *Villatici*, because they are appointed to watch and keep farm-places and Countrey Cotages sequestred from common recourse, and not abutting upon other houses by reason of distance, when there is any fear conceived of Theeves, Robbers, Spoilers, and Night-wanderers. They are serviceable against the Fox and Badger, to drive wilde and tame Swine out of Medowes, Pastures, Glebelands, and places planted with fruit, to bait and take the Bull by the ear, when occasion so requireth. One Dog or two at the utmost is sufficient for that purpose, be the Bull never so monstrous, never so fierce, never so furious, never so stern, never so untamable. For it is a kind of Dog capeable of courage, violent and valiant, striking cold fear into the hearts of men, but standing in fear of no man, in so much that no weapons will make him shrink, nor abridge his boldness. Our *Englishmen* (to the intent that their Dogs might be more fell and fierce) assist nature with art, use and custom, for they teach their Dogs to bait the Bear, to bait the Bull and other such like cruell and bloody Beasts (appointing an overseer of the game) without any Collar to defend their throats, and oftentimes they train them

them up in fighting and wrestling with any man having for the safeguard of his life, either a Pikestaffe, a Club, or a sword, and by using them to such exercises as these, their Dogs become more sturdy and strong. The force which is in them surmounteth all belief, the fast hold which they take with their teeth exceedeth all credit, three of them against a Bear, four against a Lion are sufficient, both to trie masteries with them, and utterly to overmatch them. Which thing *Henry* the seventh of that name, King of *England* (a Prince both politick and warlike) perceiving on a certain time (as the report runneth) commanded all such Dogs (how many so ever were in number) should be hanged, being deeply displeased, and conceiving great disdain, that an ill favoured rascal Cur should with such violent villany, assault the valiant Lion King of all beasts. An example for all subjects worthy remembrance, to admonish them, that it is no advantage to them to rebell against the regiment of their Ruler, but to keep them within the limits of loyalty. I read an History answerable to this of the self same *Henry*, who having a notable and an excellent fair Falcon, it fortuneed that the Kings Falconers, in the presence and hearing of his grace, biggly commended his Majesties Faulcon, saying, that it feared not to intermeddle with an Eagle, it was so venturous a Bird and so mighty; which when the King heard, he charged that the Falcon should be killed without delay, for the self same reason (as it may seem) which was rehearsed in the conclusion of the former history concerning the same king. This Dog is called in like manner, *Catenarius*, a *Catena*, of the chain wherewith he is tyed at the gates in the day time, lest being loose he should do much mischief, and yet might give occasion of fear and terror by his big barking. And albeit *Cicero* in his Oration had *pro S. Ros.* be of this opinion, that such Dogs as bark in the broad day light should have their legs broken, yet our Countrymen on this side the Seas, for their carelesnes of life setting all at cinque and sice are of a contrary judgement. For Theeves rogue up and down in every corner, no place is free from them, no not the Princes palace, nor the Countrymans cotage. In the day time they practise pilfering, picking, open robbing, and privie stealing, and what legerdemain lack they? not fearing the shameful and horrible death of hanging.

The cause of which inconvenience doth not only issue from nipping need and wringing want, for all that steal are not pinched with poverty, some steal to maintain their excessive and prodigal expences in apparel, their lewdness of life, their haughtiness of heart, their wantonness of manners, their wilful idleness, their ambitious bravery, and the pride of the sawcy *Salacones me galorrounton*, vain glorious and arrogant in behaviour, whose delight dependeth wholly to mount nimbly on horse-back, to make them leap lustily, spring and prance, gallop and amble, to run a race, to winde in compass, and so forth, living altogether upon the fatness of the spoil. Other some there be which steal, being thereto provoked by penury and need, like masterless men applying themselves to no honest trade, but ranging up and down, impudently begging and complaining of bodily weakness where is no want of ability. But valiant *Valentine* the Emperor, by wholesome lawes provided that such as having no corporal sickness, sold themselves to begging, pleaded poverty with pretended infirmity, and cloaked their idle and slothful life with colourable shifts and cloudy cozening, should be a perpetual slave and drudge to him, by whom their impudent idleness was bewrayed, and laid against them in publick place, lest the insufferable slothfulness of such vagabonds should be burthenous to the people, or being so hateful and odious, should grow into an example.

Alfredus likewise in the Government of his Common-wealth, procured such encrease of credit to justice and upright dealing by his prudent Acts & Statutes, that if a man travelling by the high way of the Countrey under his dominion, chanced to lose a budget full of Gold, or his capcase farsted with things of great value, late in the evening, he should finde it where he lost it, safe, sound, and untouched the next morning, yet (which is a wonder) at any time for a whole moneths space if he sought for it, as *Ingulphus Croyladensis* in his history recordeth. But in this our unhappy age, in these (I say) our devilish days, nothing can escape the claws of the spoiler, though it be kept never so sure within the house, albeit the doors be lockt and bolted round about. This Dog in like manner of the *Grecians* is called *Oikouros*.

Of the *Latinists*, *Canis Coltos*; in *English*, the Dog-keeper.

Borrowing his name of his service, for he doth not only keep Farmers houses, but also Merchants mansions, wherein great wealth, riches, substance and costly stuffe is reposed. And therefore were certain Dogs found and maintained at the common costs and charges of the Citizens of *Rome* in the place called *Capitolium*, to give warning of Theeves coming. This kind of Dog is called,

In *Latin*, *Canis Lanarius*, in *English*, the Butchers Dog.

So called for the necessity of his use, for his service affordeth great benefit to the Butcher as well in following as in taking his Cattel, when need constraineth, urgeth, and requireth. This Kinde of Dog is likewise called,

In *Latin*, *Molossicus*, or *Molossus*,

after the name of a Countrey in *Epirus* called *Molossia*, which harboureth many stout, strong, and sturdy Dogs of this sort, for the Dogs of that Countrey are good indeed, or else there is no truit to be had in the testimony of writers. This Dog is also called,

In *Latin*, *Canis Mandatarius*, a Dog messenger, or Carrier,

upon substantial consideration, because at his Masters voice and commandement, he carry-

eth letters from place to place, wrapped up cunningly in his leather collar, fastned thereto, or sowed close therein, who lest he should be hindred in his passage, useth these helpes very skilfully, namely resistance in fighting if he be not overmatched, or else swiftnes and readinesse in running away, if he be unable to buckle with the Dog that would faine have a snatch at his skin. This kinde of Dog is likewise called,

In *Latin*, *Canis Lunarius*; in *English*, the *Mooner*.

Because he doth nothing else but watch and ward at an inch, wasting the wearisome night season without slumbring or sleeping, bawing and wawing at the Moon (that I may use the word of *Nonius*) a quality in mine own opinion strange to consider. This kind of Dog is also called,

In *Latin*, *Aquarius*; in *English*, a *Water-drawer*.

And these be of the geater and the weightier sort, drawing water out of wels and deep pits, by a wheel which they turn round about by the moving of their burthenous bodies. This Dog is called in like manner,

Canis Carcinarius in *Latin*, and may aptly be *Englished*, a *Tinkers Cur*.

Because with marvellous patience they bear big budgets fraught with Tinkers tools, and metal meet to mend kettels, porrage-pots, skillets, and chafers, and other such like trumpery requisite for their occupation and loytering trade, easing him of a great burthen, which otherwise he himself should carry upon his shoulders; which condition hath challenged unto them the foresaid name. Besides the qualities which we have already recounted, this kind of Dogs hath this principal property ingrafted in them, that they love their Masters liberally, and hate strangers despightfully; whereupon it followeth that they are to their Masters in travelling a singular safegard, defending them forcibly from the invasion of villains and Theeves, preserving their lives from losse, and their health from hazzard, their flesh from hacking and hewing, with such like desperate dangers. For which consideration they are meritoriously termed,

In *Latin*, *Canes defensores*; *Defending Dogs* in our mother tongue.

If it chance that the Master be oppressed, either by a multitude, or by the greater violence, and so be beaten down that he lie groveling on the ground, (it is proved true by experience) that this Dog forsaketh not his Master, no not when he is stark dead: But induring the force of famishment and the outrageous tempests of the weather, most vigilantly watcheth and carefully keepeth the dead carkasse many dayes, indeavouring furthermore, to kill the murtherer of his Master, if he may get any advantage. Or else by barking, by howling, by furious jarring, snarring, and such like means betrayeth the malefactor as desirous to have the death of his aforesaid Master rigorously revenged. An example hereof fortun'd within the compasse of my memory. The Dog of a certain wayfaring man travelling from the City of *London* directly to the Town of *Kingstone* (most famous and renowned by reason of the triumphant coronation of eight several Kings) passing over a good portion of his journey, was assaulted and set upon by certain confederate Theeves lying in wait for the spoil in *Come-packe*, a perillous bottom, compassed about with Woods too well known for the manifold murders and mischievous robberies there committed. Into whose hands this passenger chanced to fall, so that his ill luck cost him the price of his life.

And that Dog whose fire was *English*, (which *Blondus* registreth to have been within the banks of his remembrance) manifestly perceiving that his Master was murthered (this chanced not far from *Paris*) by the hands of one which was a suiter to the same woman, whom he was a wooer unto, did both bewray the bloody Butcher, and attempted to tear out the villains throat, if he had not sought means to avoid the revenging rage of the Dog. In fires also which fortune in the silence and dead time of the night, or in stormy weather of the said season, the older Dogs bark, bawl, howl, and yell, (yea notwithstanding they be roughly rated) neither will they stay their tongues till the household servants awake, rise, search, and see the burning of the fire, which being perceived they use voluntary silence, and cease from yelping. This hath been, and is found true by triall, in sundry parts of *England*.

There was no fainting faith in that Dog, which when his Master by a mischance in hunting stumbled and fell, toppling down a deep ditch being unable to recover of himself, the Dog signifying his Masters mishap, rescue came, and he was haled up by a rope, whom the Dog seeing almost drawn up to the edge of the ditch, cheerfully saluted, leaping and skipping upon his Master as though he would have imbraced him, being glad of his presence, whose longer absence he was loath to lack. Some Dogs there be, which will not suffer fiery coles to lie scattered about the hearth, but with their pawes will rake up the burning coles, musing and studying first with themselves how it might conveniently be done. And if so be that the coles cast too great a heat, then will they bury them in ashes and so remove them forward to a fit place with their noses. Other Dogs be there which execute the office of a Farmer in the night time. For when his Master goeth to bed to take his natural sleep; And when,

*A hundred bars of brasse and iron bolts,
Make all things safe from starts and from revolts,
When Janus keeps the gate with Argus eye,
That dangers none approach, no mischief nie,*

As *Virgil* vaunteth in his Verses: Then if his Master biddeth him goe abroad, he lingereth not, but rangereth

rangeth over all his lands thereabout, more diligently, I wys, then any Farmer himself. And if he finde any thing there that is strange and pertaining to other persons besides his Master, whether it be man, woman, or beast, he driveth them out of the ground, nor medling with any thing that do belong to the possession and use of his Master. But how much faithfulness, so much diversity there is in their natures.

For there be some, which bark only with free and open throat, but will not bite, some which do both bark and bite, and some which bite bitterly before they bark.

The first are not greatly to be feared, because they themselves are fearful, and fearful Dogs (as the Proverb importeth) bark most vehemently.

The second are dangerous, it is wisdom to take heed of them, because they sound as it were, an *Alarm* of an afterclap, and these Dogs must not be over much moved or provoked, for then they take on outrageously, as if they were mad, watching to set the print of their teeth in the flesh. And these kinde of Dogs are fierce and eager by nature.

The third are deadly, for they fly upon a man without utterance of voyce, snatch at him, and catch him by the throat, and most cruelly bite out collops of flesh. Fear these kinde of Curs, (if thou be wise and circumspect about thine own safety) for they be stout and stubborn Dogs, and set upon a man at a suddain unawares. By these signes and tokens, by these notes and arguments our men discern the towardly Cur from the couragious Dog, the bold from the fearful, the butcherly from the gentle and tractable. Moreover they conjecture, that a Whelp of an ill kinde is not worth keeping, and that no Dog can serve the sundry uses of men so aptly and conveniently as this sort, of whom we have so largely written already. For if any be disposed to draw the above named services into a Table, what man more clearly, and with more vehemency of voyce giveth warning either of a wastful Beast, or of a spoyling thief then this? who by his barking (as good as a burning Beacon) foresheweth hazards at hand. What manner of Beast stronger? What servant to his Master more loving? What companion more trusty? What Watchman more vigilant? What revenger more constant? What Messenger more speedy? What Water-bearer more painful? Finally, what Pack-horse more patient? And thus much concerning *English* Dogs, first of the gentle kinde, secondly of the courser kinde. Now it remaineth that we deliver unto you the Dogs of a Mungrel or Currish kinde, and then will we perform our task.

Containing *CURS* of the *Mungrel* and *Rascal* sort, and first of all the *DOG* called in *Latine*, *Admonitor*, and of us in *English*, *Wappe*, or *Warner*.

OF such Dogs as keep not their kinde, of such as are mingled out of sundry sorts, not imitating the conditions of some one certain spise, because they resemble no notable shape, nor exercise any worthy property of the true, perfect and gentable kinde, it is not necessary, that I write any more of them, but to banish them as unprofitable implements, out of the bounds of my Book; unprofitable I say, for any use that is commendable, except to entertain strangers with barking in the day time, giving warning to them of the House, that such and such be newly come, whereupon we call them admonishing Dogs, because in that point they perform their Office.

Of the *DOG* called *TURNESPIT*, in *Latine*, *Veruversater*.

HERE is comprehended, under the Curs of the coursest kinde, a certain Dog in Kitchen-service excellent. For when any meat is to be roasted, they go into a wheel, which they turning round about with the weight of their bodies, so diligently look to their business, that no drudge nor scullion can do the feat more cunningly. Whom the popular sort hereupon call Turn-spits, being the last of all those which we have first mentioned.

Of the *DOG* called the *DANCER*, in *Latine*, *Saltator* or *Tympanista*.

HERE be also Dogs among us of a Mungrel kinde, which are taught and exercised to dance in measure at the Musical sound of an instrument, as at the just stroke of the Drum; at the sweet accent of the Cittern, and tuned strings of the harmonious Harp, shewing many pretty tricks by the gesture of their bodies; as to stand bolt upright, to lye flat upon the ground, to turn round as a ring, holding their tails in their teeth, to beg for their meat, and sundry such properties, which they learn of their Vagabundical Masters, whose instrument they are to gather gain withall in the City, Countrey, Town, and Village. As some which cary old Apes on their shoulders in coloured Jackets to move men to laughter for a little lucre.

Of other *D O G S*, a short conclusion, wonderfully ingendred within the coast of this Countrey.

Of these there be three sorts; the first bred of a Bitch and a Wolf, called in *Latine*, *Lyciscus*; the second of a Bitch and a Fox, in *Latine*, *Lacena*; the third of a Bear and a Bandog, *Vrcanus*.

Of the first we have none naturally bred within the borders of *England*. The reason is for the want of Wolves, without whom no such Dog can be ingendred. Again, it is delivered unto thee in this discourse: how and by what means, by whose benefit, and within what circuit of time, this Countrey was clearly discharged of ravening Wolves, and none at all left, no, not the least number, or to the beginning of a number, which is an *Unarie*.

Of the second sort we are not utterly void of some, because this our *English* soil is not free from Foxes, (for indeed we are not without a multitude of them, insomuch as divers keep, foster and feed them in their houses among their Hounds and Dogs, either for some malady of minde, or for some sickness of body) which peradventure the favour of that subtil Beast would either mitigate or expell.

The third which is bred of a Bear and a Bandog, we want not here in *England*, (A strange and wonderful effect, that cruel enemies should enter into the work of copulation, and bring forth so savage a Cur.) Undoubtedly it is even so as we have reported, for the fiery heat of their flesh, or rather the pricking thorn; or most of all, the tickling lust of lechery, beareth such swing and sway in them, that there is no contrariety for the time, but of constraint they must joya to engender. And why should not this be consonant to truth? why should not these Beasts breed in this land, as well as in other forein Nations? For we read that Tygers and Dogs in *Hircania*, that Lyons and Dogs in *Arcadia*, and that Wolves and Dogs in *Francia* couple and procreate. In men and women also lightned with the Lantern of reason (but utterly void of vertue) that foolish, frantick, and fleshly action (yet naturally seated in us) worketh so effectually, that many times it doth reconcile enemies, set foes at friendship, unanimity, and atonement, as *Moria* mentioneth. The *Vrcane* which is bred of a Bear and a Dog,

*Is fierce, is fell, is stout and strong,
And biteth sore to flesh and bone.
His furious force indureth long,
In rage he will be rul'd of none.*

That I may use the words of the Poet *Gratius*. This Dog exceedeth all other in cruel conditions, his leering and fleering looks, his stern and savage visage, maketh him in sight fearful and terrible, He is violent in fighting, and wheresoever he set his tenterhook teeth, he taketh such sure and fast hold, that a man may sooner tear and rend him asunder, then loose him and separate his chaps. He passeth not for the Wolf, the Bear, the Lyon, nor the Bull, and may worthily (as I think) be companion with *Alexanders* Dog which came out of *India*. But of these, thus much, and thus far may seem sufficient.

A start to *Out-landish D O G S* in this conclusion, not impertinent to the Authors purpose.

Use and custome hath entertained others Dogs of an *Out-landish* kinde, but a few and the same being of a pretty bigness, I mean *Island* Dogs, curled and rough all over, which by reason of the length of their hair make shew neither of face nor of body: And yet these Curs, forsooth, because they are so strange, are greatly set by, esteemed, taken up, and many times in the room of the *Spaniel* gentle or comforter. The nature of men is so moved, nay, rather maryed to novelties without all reason, wit, judgement or perseverance, *Eromen allotrias, paroromen suggeneis*.

*Out-landish toys we take with delight,
Things of our own Nation we have in despight.*

Which fault remaineth not in us concerning Dogs only, but for Artificers also. And why? it is manifest that we disdain and condemn our own Work-men, be they never so skilful, be they never so cunning, be they never so excellent. A beggerly Beast brought out of barbarous borders, from the uttermost Countreys Northward, &c. we stare at, we gaze at, we muse, we marvail at, like an *Ass* of *Cumanum*, like *Thales* with the brazen shanks, like the man in the Moon.

The which default *Hippocrates* marked when he was alive, as evidently appeareth in the beginning of his Book *Peri Agmon*, so entituled and named:

And we in our work entituled *De Ephemera Britannica*, to the people of *England* have more plentifully expressed. In this kinde look which is most blockish, and yet most waspish, the same is most esteemed, and not among Citizens only and jolly Gentlemen, but among lusty Lords also, and Noble-

Noblemen. Further I am not to wade in the foord of this discourse, because it was my purpose to satisfie your expectation with a short treatise (most learned *Conrade*) not wearisome for me to write, nor tedious for you to peruse. Among other things which you have received at my hands heretofore, I remember that I wrote a several description of the *Getulian Dog*, because there are but a few of them, and therefore very seldom seen. As touching Dogs of other kindes you your self have taken earnest pain in writing of them both lively, learnedly, and largely. But because we have drawn this libel more at length then the former which I sent you (and yet briefer then the nature of the thing might well bear) regarding your most earnest and necessary studies, I will conclude, making a rehearal notwithstanding (for memory sake) of certain specialities contained in the whole body of this my breviary. And because you participate principal pleasure in the knowledge of the common and usual names of Dogs (as I gather by the course of your letters) I suppose it not amiss to deliver unto you a short table containing as well the *Latine* as the *English* names, and to render a reason of every particular appellation, to the intent that no scruple may remain in this point, but that every thing may be sifted to the bare bottom.

**A Supplement or Addition, containing a demonstration of *D O G S* Names
how they had their Original.**

THe names contained in the general Table, forsomuch as they signifie nothing to you being a stranger, and ignorant of the *English* tongue, except they be interpreted: as we have given a reason before of the *Latine* words, so mean we to do no less of the *English*, that every thing may be manifest unto your understanding. Wherein I intend to observe the same order which I have followed before.

Sagax, in *English*, *Hund*, is derived of our *English* word hunt. One letter changed in another, namely T into D, as Hunt, Hund, whom if you conjecture to be so named of your Countrey word Hund, which signifieth the general name (*Dog*) because of the similitude and likeness of the words, I will not stand in contradiction (friend *Gesner*) for somuch as we retain among us at this day many *Dutch* words, which the *Saxons* left at such time as they enjoyed this Countrey of *Britain*. Thus much also understand, that as in your language *Hund* is the common word, so in our natural tongue (*Dog*) is the universal, but *Hund* is particular and a special, for it signifieth such a *Dog* only as serveth to hunt, and therefore it is called a *Hund*.

Of the Gase-hound.

The Gase-hound called in *Latine*, *Agasew*, hath his name of the sharpness and stedfastness of his eye-sight. By which vertue he compasseth that which otherwise he cannot by smelling attain. As we have made former relation, for to gase is earnestly to view and behold, from whence floweth the derivation of this Dogs name.

Of the Gray-hound.

The Gray-hound called *Leporarius*, hath his name of this word *Gre*, which word soundeth, *Gradus* in *Latine*, in *English*, *Degree*. Because among all Dogs these are the most principal, having the chiefeft place, and being simply and absolutely the best of the gentle kinde of Hounds.

Of the Levyner or the Lyemmer.

This Dog is called a *Levyner*, for his lightness, which in *Latine* soundeth *Levitas*. Or a *Lyemmer*, which word is borrowed of *Lyemme*, which the *Latinists* name *Lorum*: and wherefore we call him a *Levyner* of this word *Levitas*: (as we do many things besides) why we derive and draw a thousand of our terms out of the *Greek*, the *Latine*, the *Italian*, the *Dutch*, the *French*, and the *Spanish* tongue; (Out of which Fountains indeed, they had their Original issue.) How many words are buried in the grave of forgetfulness; grown out of use; wrested awry; and perversly corrupted by divers defaults; we will declare at large in our Book entituled, *Symphonia vocum Britannicarum*.

Of the Tumbler.

Among Hounds the Tumbler called in *Latine*, *Vertagus*; which cometh of this word Tumbler, flowing first from the *French* Fountain. For as we say Tumble, so they *Tumbier*, reserving our sense and signification, which the *Latinists* comprehend under this word *Vertere*. So that we see thus much, that Tumbler cometh of *Tumbier*, the Vowel I, changed into the Liquid L, after the manner of our speech. Contrary to the *French* and the *Italian* tongue: In which two Languages, a Liquid before a Vowel for the most part is turned into another Vowel; as may be perceived in the example of these these two words, *Implere & plano*, for *Impiere & piano*, L, before E, changed into I, and L, before A, turned into I also. This I thought convenient for a taft.

After such as serve for hunting, orderly do follow such as serve for hawking and fowling; among which the principal and chiefeft is the *Spaniel*, called in *Latine*, *Hispaniolus*, borrowing his name of *Hispania*, wherein we *English* men not pronouncing the Aspiration H, nor the Vowel I, for quickness and readines of speech, say roundly a *Spaguel*.

Of the Setter.

The second sort is called a Setter, in *Latine*, *Index*. Of the word (*Set*) which significeth in *English* that which the *Latinists* mean by this word *Locum designare*, the reason is rehearsed before more largely, it shall not therefore need to make a new repetition.

Of the Water Spaniel or Finder.

The Water Spaniel consequently followeth, called in *Latine*, *Aquaticus*; in *English* a Water Spaniel, which name is compound of two simple words, namely *Water*, which in *Latine* soundeth *Aqua*, wherein he swimmeth, and *Spain*, *Hispania*, the Countrey from whence they came; not that *England* wanteth such kinde of Dogs, (for they are naturally bred and ingendered in this Countrey) but because they bear the general and common name of these Dogs since the time they were first brought over out of *Spain*. And we make a certain difference in this sort of Dogs, either for something which in their qualities is to be considered, as for an example in this kinde called the Spaniel, by the apposition and putting to of this word *Water*, which two coupled together sound Water Spaniel. He is called a Finder, in *Latine*, *Inquisitor*; because that by serious and secure seeking, he findeth such things as be lost, which word *Finde* in *English* is that which the *Latines* mean by this Verb *Invenire*. This Dog hath this name of his property, because the principal point of his service consisteth in the premises.

Now leaving the surview of hunting and hawking Dogs, it remaineth that we run over the residue, whereof some be called fine Dogs, some course, other some Mungrels or Rascals. The first is Spaniel gentle called *Canis Melitæus*, because it is a kinde of Dog accepted among Gentils, Nobles, Lords, Ladies, &c. who make much of them, vouchsafing to admit them so far into their company, that they will not only lull them in their laps, but kiss them with their lips, and make them their pretty play-fellows. Such a one was *Gorgon's* little puppy mentioned by *Theocritus* in *Syracusa*, who taking his journey, straightly charged and commanded his Maid to see to his Dog as charily and warily as to his childe: To call him in always that he wandred not abroad, as well as to rock the babe a sleep, crying in the Cradle.

This Puppetly and pleasant Cur, (which some frumpingly tearm *Fysting Hound*) serves in a manner to no good use, except (as we have made former relation) to succour and strengthen qualing and qualming stomachs, to bewray bawdery, and filthy abominable lewdness (which a little Dog of this kinde did in *Sicilia*) as *Ælianus* in his 7. Book of Beasts, and 27. chapter recordeth.

Of Dogs under the courser kinde, we will deal first with the Shepherds Dog, whom we call the Bandog, the Tydog, or the Mastive, the first name is imputed to him for service, *Quoniam pastori famulatur*, because he is at the Shepherds his Masters commandment. The second a *Ligamento* of the band or chain wherewith he is tyed. The third a *Sagina*, of the fatness of his body.

For this kinde of Dog which is usually tyed, is mighty, grofs, and fat fed. I know this that *Augustinus Niphus* calleth this *Mastivus*, (which we call *Mastive*) and that *Albertus* writeth how the *Lyciscus* is ingendred by a Bear and a Wolf. Notwithstanding the self same Author taketh it for the most part *pro Molosso*, a Dog of such a Countrey.

Of Mungrels and Rascals somewhat is to be spoken: and among these, of the Wappe of Turnspit, which name is made of two simple words, that is, of Turn, which in *Latine* soundeth *Vertere*, and of Spit which is *Veru*, or spede, for the *English* word inclineth closer to the *Italian* imitation, *Veruversator*, Turnspit. He is called also Waupe, of the natural noise of his voyce Wau, which he maketh in barking. But for the better and readier sound, the vowel *U*, is changed into the consonant *P*, so that for Waupe we say Wappe. And yet I wot well that *Nonius* borroweth his *Baubari* of the natural voyce Bau, as as the *Græcians* do their *Bautin* of Wau.

Now when you understand this, that *Saltare* in *Latine* signifieth *Dansare* in *English*. And that our Dog is thereupon called a Dancer, and in the *Latine*, *Saltator*; you are so far taught as you were desirous to learn: and now I suppose, there remaineth nothing, but that your request is fully accomplished.

Thus (Friend *Gesner*) you have, not only the kindes of our Countrey Dogs, but their names also, as well in *Latine* as in *English*, their Offices, Services, Diversities, Natures, and Properties, that you can demand no more of me in this matter. And albeit I have not satisfied your minde peradventure (who suspectest all speed in the performance of your request imployed, to be meer delays) because I staid the setting forth of that unperfect pamphlet, which five years ago I sent to you as a private friend for your own reading, and not to be printed and so made common, yet I hope (having like the Bear lickt over my young) I have waded over in this work to your contentation, which delay hath made somewhat better, and *Deuterai phrontides*, after wit more meet to be perused.

Now it is convenient to shut up this treatise of Dogs, with a recital of their severall diseases and cures thereof; for as all other creatures, so this beast is annoyed with many infirmities. First, therefore if you give unto a Dog every seventh day, or twice in seven days broath or pottage, wherein Ivy is sod, it will preserve him sound without any other medicine, for this herb hath the same operation in Dogs to make wholesome their meat, that it hath in Sheep to cleanse their pasture. The small fruits of Ellebor which are like to Onions, have power in them to purge the belly of Dogs: Other give them Goats-milk, or Salt beaten small, or Sea-crabs beaten small and put into water, or

Staves-

Of the diseases
of Dogs and
their cures.
Blondus.

Pliny.
Tardius.

Staves-acre, and immediately after his purgation, sweet Milk. If your Dog be obstructed and stopped in the belly, which may be discerned by his trembling, sighing, and removing from place to place, give unto him Oaten meal and water to eat, mingled together and made as thick as a Pukefs, or leavened Oaten bread, and sometime a little Whay to drink.

Albertus.

The Ancients have observed that Dogs are most annoyed with three diseases, the swelling of the throat, the Gowt, and madness; but the later Writers have observed many noysome infirmities in them. First, they are oftentimes wounded by the teeth of each other, and also of wilde Beasts: for cure whereof, *Blondus* out of *Maximus* writeth these remedies following: First, let the sinews, fibres, or gristles of the wound be laid together, then sow up the lips or upper skin of the wound with a needle and thred, and take of the hairs of the Dog which made the wound, and lay thereupon, untill the bleeding be stanchd, and so leave it to the Dog to be licked; for nature hath so framed the Dogs tongue, that thereby in short space he cureth deep wounds.

And if he cannot touch the sore with his tongue, then doth he wet his foot in his mouth, and so oftentimes put it upon the main: or if neither of these can be performed by the Beast himself, then cure it by casting upon it the ashes of a Dogs head, or burned salt, mingled with liquid pitch poured thereupon. When a Dog returning from hunting is hurt about the snout, by the venomous teeth of some wilde Beast, I have seen it cured by making incision about the wound, whereby the poysoned blood is evacuated, and afterward the sore was anoynted with Oyl of Saint Johns-wort. Wood-worms cure a Dog bitten by Serpents. When he is troubled with Ulcers or rindes in his skin, pieces of Pot-sheards beaten to powder and mingled with Vinegar and Turpentine, with the fat of a Goose; or else Water-wort with new Lard, applyed to the sore, easeth the same: and if it swell, anoynt it with Butter.

Albertus.

Blondus.

Plinius.

For the drawing forth of a thorn or splinter out of a Dogs foot, take Colts-foot and Lard, or the powder thereof burned in a new earthen pot; and either of these applyed to the foot, draweth forth the Thorn, and cureth the sore: for by *Dioscorides* it is said, to have force to extract any point of a Spear out of the body of a man. For the Worms which breed in the Ulcers of their heels, take *Unguentum Egyptiacum*, and the juyce of peach-leaves: There are some very skilful Hunters which affirm, that if you hang about the Dogs neck sticks of Citrine, as the wood dryeth, so will the Worms come forth and dy. Again, for this evil they wash the wounds with water, then rub it with Pitch, Thyme, and the dung of an Oxe in Vinegar; afterward they apply unto it the powder of *Ellebor*. When a Dog is troubled with the Mangie, Itch, or Ring-worms, first let him bleed in his fore-legs in the greatest vein: afterward make an Ointment of Quick-silver, Brimstone, Nettle-seed, and twice so much old Sewer or Butter, and therewithall anoint him, putting thereunto if you please decoction of Hops and Salt water.

Tatdinus.

Albertus.

Rafis.

Some do wash Mangy Dogs in the Sea-water; and there is a Cave in *Sicily* (saith *Gratius*) that hath this force against the scabs of Dogs, if they be brought thither, and set in the running water which seemeth to be as thick as Oyl. Flegm or melancholy doth often engender these evils, and so after one Dog is infected, all the residue that accompany or lodge with him, are likewise poysoned: for the avoiding thereof, you must give them Fumitory, Sorrel, and Whay sod together; it is good also to wash them in the Sea, or in Smiths-water, or in the decoction aforesaid.

For the taking away of Warts from the feet of Dogs, or other members, first rub and friccate the Wart violently, and afterward anoint it with Salt, Oyl, Vinegar, and the powder of the rinde of a Gourd; or else lay unto it Aloes beaten with Mustard-seed, to eat it off, and afterward lay unto it the little scories or iron chips, which fly off from the Smiths hot iron while he beateth it, mingled with Vinegar, and it shall perfectly remove them.

Against Tikes, Lyce, and Fleas, anoint the Dogs with bitter Almonds, Staves-acre, or roots of Maple, or Cipers, or froth of Oyl, if it be old; and anoint also their ears with Salt-water, and bitter Almonds, then shall not the flies in the Summer time enter into them. If Bees or Wasps, or such Beasts sting a Dog, lay to the sore burned Rue, with Water; and if a greater Fly, as the Horner, let the Water be warmed. A Dog shall be never infected with the Plague, if you put into his mouth in the time of any common Pestilence, the powder of a Storks craw, or Ventricle, or any part thereof with Water: which thing ought to be regarded, (for no creature is so soon infected with the Plague as is a Dog and a Mule) and therefore they must either at the beginning receive medicine, or else be removed out of the air, according to the advice of *Gratius*:

Blondus.

Pliny.

Dioscorides.

Sed, variis virus, nec in omnibus una potestas.
Disce vices, & que tutela est proxima, tenta.
Wolf-wort, and *Apocynon*, whose leaves are like the leaves of Ivy, and smell strongly, will kill all Beasts which are littered blinde; as Wolves, Foxes, Bears, and Dogs, if they eat thereof: So likewise will the root of *Chameleon* and *Mezereon*, in Water and Oyl, it killeth Mice, Swine, and Dogs. *Ellebor*, and *Squilla*, and *Faba Lupina*, have the same operation. There is a Gourd (called *Zinziber* of the Water) because the taste thereof is like to Ginger, the Flower, Fruit, and Leaf thereof killeth Asses, Mules, Dogs, and many other four-footed Beasts. The Nuts *Vomica*, are poyson to Dogs, except their ear be cut presently and made to bleed. It will cause them to leap strangely up and down, and kill him within two hours after the tasting, if it be not prevented by the former remedy. *Theophrastus Chrysippus* affirmeth, that the water wherein Sperage hath been

been sod given to Dogs, killeth them : the fume of Silver or Lead hath the same operation.

Albertus.

If a Dog grow lean, and not through want of meat, it is good to fill him twice or thrice with Butter, and if that do not recover him, then it is a sign that the worm under his tongue annoyeth him, (which must be presently pulled out by some Naul or Needle) and if that satisfie not, he cannot live, but will in short time perish. And it is to be noted, that Oaten bread leavened, will make a sluggish Dog to become lusty, agile, and full of spirit. Dogs are also many times bewitched, by the only sight of Inchanters, even as Infants, Lambs, and other creatures, according to *Virgil's* verse ;

Blondus.

Nescio quis teneros oculus mihi fascinat agnos.

For the bewitching spirit entereth by the eye into the heart of the party bewitched : for remedy whereof, they hang about the neck a chain of Corral, as for holy Herbs I hold them unprofitable.

Vincentius.

To cure the watry eyes of Dogs, take warm water, and first wash them therewith, and then make a plaister of meal and the white of an Egge, and so lay it thereunto. By reason of that saying, *Ecclesi. 20. cap. Bribes and gifts blinde the eyes of Iudges, even as a dumb Dog turneth away Correction.* Some have delivered, that green Crow-foot forced into the mouth of a Dog, maketh him dumb, and not able to bark : When a Dog becometh deaf, the Oyl of Roses with new pressed Wine infused into his ears, cureth him : and for the Worms in the ears, make a plaister of a beaten Spunge and the white of an Egge, and that shall cure it.

Tardius.

Pollux.

Niphus.

Blondus.

The third kinde of Quinancy (called *Synanche*) killeth Dogs, because it bloweth up their chaps, and includeth their breath. The Cough is very noy some to Dogs, wherefore their keepers must infuse into their Nostrils two cups of Wine, with bruised sweet Almonds : but *Tardius* for this disease, prescribed great Parsley sod with Oyl, Honey, and Wine, and so given to the Dog. For the shortness of the breath, bore him through the ear, and if there be any help, that will prevail.

If a bone stick in the mouth of a Dog, hold up his head backward, and pour Ale into his mouth untill he cough, and so shall he be eased. When a Dog hath surfeited, and falleth to loath his meat, he eateth the herb *Canaria*, and is relieved (both against his surfeit, and also the bitings of Serpents.) For the Worms in the belly, he eateth Wheat in the stalk. The Gowt maketh the Dogs legs grow crooked, and it is never so cured, but that after a course or two they grow lame again. When his skin flyeth from his nails, take meal and water, and binde them thereunto for a remedy ; and these are for the most part, those diseases wherewithall Dogs are infected, and the other are either cured by heat, or by eating of grasse : and so for this part, I conclude both the sickness and cure of Dogs, with the saying of *Gratius* :

Mille tenent pestes, curaque potentia major.

Of the bitings
of mad Dogs
and their
cures.

Concerning the madnes of Dogs, and their venomous bitings, we are now to speak : and first of all, no reasonable man ought to doubt, why the teeth of a mad Dog should do more harm then of a sound and healthy one : because in rage and anger, the teeth of every Beast and creature, receive venome and poyson from the head (as it is well observed by *Aegineta*) and so at that time fastning their teeth, they do more harm then at other times. Against the simple biting of a Dog, it is sufficient but to use the urine of a Dog, for there is not much venome in those wounds ; and the urine also will draw out the prickles of a Hedge-hog, because such wounds have in them but little poyson. Also (as *Aetius* prescribeth) it is very soveraign in such wounds, first of all to cover and rub the sore with the palm of ones hand, and then pour into it Vinegar and Nitre, so as it may descend to the bottom of the wound, and afterward lay unto it a new sponge wetted in the same Vinegar and Nitre, and let it be so continued for the space of three days, and by the working thereof it shall be whole.

Also it is generally to be observed in all the bitings of men by Dogs, that first of all it is requisite, that the wound be well rubbed over by the palm of the hand with Vinegar, then pour into the wounds Vinegar mixed with water or with Nitre, laying also a sponge thereupon, and so binde it upon the place, having first wetted the cloaths wherewithall you binde it with the said Vinegar mixed, so let it remain bound up three days together, and afterward follow the common course of curing, as in every vulgar wounds, or else, lay thereunto Pellitory of the Wall, mingled and beaten with Salt, changing it every day, untill the crust or upper skin fall away.

It is also good sometimes, the holes being small, to wet Lint in Vinegar, and to purge the wound with powder of Anise-seed, or Cumin ; laying the Lint upon the Anise for two or three days. The same being thus purged, take a medicine of the equall parts of Hony, Turpentine, Butter, Goose-grease, Marrow of a Hart, or Calf, melted betwixt the teeth of a man, and lay it thereunto, for it also cureth the bitings of men : but if the sore be inflamed, then lay unto it Lentils sod with the parings of Apples, and dried, or the crums of bread with the juyce of Beets, and a little Oyl of Roses, made like a plaister.

Divers Authors have also prescribed these outward medicines against the bitings of Dogs in general, namely Vinegar spunged, the Lees of Vinegar, with *Nigella Romana*, Venus Hair, Alabafter, Brine with Lint, Garlick mixed with Honey, and taken into the body, Lees of Wine,

Almonds

Almonds both sweet and bitter mingled with Honey, dried Anise-seeds burned, the leaves of black Hore-hound, or Archangel beaten with Salt, Scallions with Honey and Pepper of the case, the juyce of Onyons with Rue and Honey, or raw Onyons with Honey and Vinegar, but sod ones with Honey and Wine, (if they be green) let them ly to the wound three days: the ashes of Vine-trees with Oyl, ashes of a Fig-tree with a Sear-cloth, beside infinite other elaborate medicines, drawn from Trees, Fruits, Fields, Gardens, and all other creatures; as if Nature had only stroven to provide sundry ready cures for this evill above all other.

Leaving therefore the simple bitings of Dogs, let us proceed to the madness of Dogs and their bitings, wherein the greater danger must be considered, with greater circumspection of remedies. First therefore, the Ancients have derived *Rabiem*, of *Raviem*, madness, of the hoarseness of voyce, (because a Dog at that time hath no perfect voyce.) But it is more probable, that *Rabies* cometh of *Rapiendo*, because when a Dog beginneth to be oppressed herewith, he biteth, snatcheth, runneth to and fro, and is carryed from home and Master, to his own perdition: this by the *Grecians* is called *Lyssa*, and *Cynolossos*.

By this evill, not only Dogs perish, but all other creatures (except a Goose) bitten by them: and a man doth not escape without great perill. For *Albertus* relateth a story, of a man whose arm was bitten by a mad Dog, and after twelve years the fore brake forth again, and he dyed within two days; and the reason hereof was (as in all likelihood that of *Calius*) that when one and the same nature infecteth each other, as Dogs do Dogs, and men do men, then by reason of their similitude and natural sympathy, they receive the consuming poyson with all speed: but if another nature infect that, betwixt whom in inclination and passion, there is a dissimilitude and antipathy, (as is betwixt a Dog and a Man) then will the poyson receive greater opposition, and be so much the longer before it receive predominant operation, because the first overcometh Nature by treason, against which there is no resistance; and the second by open force and proclamation of War, against which all the strength and force of nature is combined and opposed.

Hereof also it came to pass, that the Noble Lawyer *Baldus*, playing with his Dog at *Trent*, was bitten by him in his lip, and neglecting the matter (because he never suspected the Dogs madness) after four moneths the poyson wrought upon him, and he perished miserably. Those Beasts which have teeth like saws, (as Dogs, Wolves, and Foxes) go mad by nature, without the bitings of others, but those which have no such teeth (as Asses and Mules,) fall not mad at any time untill they be bitten by other.

Mathæolus.
A History of
the death of
Baldus.
Michal Ephe-
sius.

Also it hath been observed, that sometimes a mad Dog hath bitten, and there hath followed no harm at all, whereof this was the reason, because poyson is not equally in all his teeth; and therefore biting with the purer and wholesomer, the wound became not perillous.

Aug. Niphus.

A man bitten with a mad Dog, falleth mad presently when he cometh under the shadow of a Corn-tree; as it is affirmed by most Physitians, for that shadow setteth the poyson on fire: but a man falling mad, of all creatures avoideth a Dog, and a Dog most of all falleth upon men. There are many things which ingender madness in Dogs, as hot wheaten bread dipped in Bean-water, melancholy bred within them, and not purged by *Canaria*, or other herbs, the menstruous pollutions of Women, and the pain of his teeth. Their madness is most dangerous in the Dog-days, for then they both kill and perish mortally; for at that time their spittle or some, falling upon mans body, breedeth great danger; and that if a man tread upon the Urine of a mad Dog, he shall feel pain by it if he have a sore about him: from whence it came to pass, that a stone bitten by such a Dog, was a common proverb of discord. Also it is observed, that if a wound be dressed in the presence of man or woman, which hath been bitten by a mad Dog, that the pain thereof wil be encreased: and which is more, that abortment will follow upon Beasts with young, or Egges covered by the Hen, by their presence: But for remedy, they wash their hands and sprinkle themselves, or the Beasts with that wa-

Ponzettus.

Pliny.
Dog-days
most perillous
for mad Dogs.

Pliny.

If the gall of a mad Dog, about the bigness of a Lentill seed be eaten, it killeth within seven days, or else doth no harm at all, if it pass seven days without operation. When a mad Dog had suddenly tore in pieces a garment about ones body, the Taylor or Botcher took the same to mend, and forgetting himself, put one side of the breach into his mouth to stretch it out to the other, and fell mad immediately. Men thus affected, fear all waters, their virile member continually standeth, they suffer many Convulsions, and oftentimes bark like Dogs.

Bertruius.

There was a certain Mason at *Zurick*, who had his finger grievously bitten with a mad Dog about *July*, whereunto he laid Garlick, Rue, and Oyl of Scorpions, and so it seemed to be healed, wherefore he took no counsel of any Physitian. About *August* following, he was taken with a Feaver, being first very cold, then very hot, and so continued sweating for a day or two, and could not endure the cold air. He thirsted much, yet when water or drink was brought him, he was so afraid thereof that he could not drink: his sweat was cold, and when he felt any cold air, he cryed out for fear it had been water: thus he remained trembling, and offering to vomit at the sight of water, many times howling, and so perished after two days ended.

When a Dog is mad it may be known by these signes, for he will neither eat nor drink, he looketh awry and more sadly then ordinary; his body is lean, he casteth forth thick steam out of his nostrils or mouth: He breatheth gaping, and his tongue hangeth out of his mouth. His ears is limber and weak, his tail hangeth downward: his pace is heavy and sluggish untill he run, and then it is more rash, intemperate and uncertain. Sometimes running, and presently after standing still again.

Signes to know
a mad Dog.

Bertruvius.
Ponzettus.

again: he is very thirsty, but yet abstaineth from drink, he barketh not, and knoweth no man, biting both strangers and friends. His head hangeth downward; he is fearful, and runneth into secret places from his whelps or fellows, who often bark at him, and will not eat of bread upon which his blood hath fallen. His eyes grow very red; he many times dyeth for fear of water: some discern it by laying Nuts or grains of Corn to the bitten place, and afterward take them away and cast them to Hens or Pullen, who for hunger will eat them, and if after the eating the fowl live, the Dog will not be mad; but if it dye, then for certainty the Dog will fall mad. The which passions do also agree with them that are bitten by him; and it is not to be forgotten, that the bitings of the female bring more danger then the males.

The bodies of them that are thus wounded grow very dry, and are pressed with inward burning Feavers, if by Musick and delightful sports they be not kept waking; many times they dye suddenly, or else recover for a small time, and then fall into a relapsed malady.

Some give this to be the cause of their fear of water, because their body growing dry, seemeth to forget all participation with humidity: but *Rufus* affirmeth, this cometh from melancholy, where-withall these persons are most commonly affected: which agreeth with an imagination they have, that they see Dogs in the water, and indeed it cannot be but their own countenance, which in these passions is very red, doth wonderfully afflict them, both in the water, and in all looking glasses.

Ælius.

When a certain Philosopher (being bitten by a mad Dog) entred into a Bath, and a strong apparition of a Dog presented it self unto him therein, he strove against this imagination with a singular confident courage to the contrary, saying within himself; *Quid Cani commune est cum Balneo?* what hath a Dog to do in a Bath? and so went in and overcame his disease: which thing had seldom chanced, that a man hath recovered this malady after he fell into fear and trembling, except *Eudemus* and *Themiso*, who obeying the request of a friend of his, entred likewise into the water, and after many torments was recovered.

To conclude, some men in this extremity suffer most fearful dreams, profusion of seed, hoarseness of voyce, shortness of breath, retention of urine, which also changeth colour, being sometimes black, sometimes like milk, sometime thick, sometime thin as water, rumbling in the belly, by reason of crudity, redness of the whole body, distention of nerves, heaviness of minde, love of darkness, and such like. Yet doth not this operation appear presently upon the hurt, but sometimes at nine days, sometimes at forty days, sometimes at half a year, or a year, or seven, or twelve year, as hath been already said.

The cure of
mad Dogs ei-
ther for pre-
venting or re-
covering.
Pliny.

For the cure of these Dogs, and first of all for the preventing of madness, there are sundry invented observations. First, it is good to shut them up, and make them to fast for one day, then purge them with *Hellebor*, and being purged, nourish them with bread of Barley-meal. Other take them when they be young whelps, and take out of their tongue a certain little worm, which the *Græcians* call *Lytta*; after which time they never grow mad, or fall to vomiting, as *Gratius* noted in these verses;

*Namque subit nodis qua lingua tenacibus hæret
Vermiculum dixere, mala atque incondita pestis, &c.
Iam teneris elementa mali, causasque recidunt.*

Pliny.

But immediately it being taken forth, they rub the tongue with Salt and Oyl. *Columella* teacheth that Shepherds of his time, took their Dogs tails, and pulled out a certain nerve or sinew, which cometh from the Articles of the Back-bone into their tails, whereby they not only kept the tail from growing deformed and over-long, but also constantly believed, that their Dogs could never afterward fall mad: whereunto *Pliny* agreeth, calling it a castration or gelding of the tail, adding, that it must be done before the Dog be forty days old. Some again say, that if a Dog taste of a Womans milk which she giveth by the birth of a Boy, he will never fall mad. *Nemesian* ascribeth the cure hereof to *Castoreum* dried and put into milk, but this is to be understood of them that are already mad, whose elegant verses of the cause, beginning, and cure of a mad Dog. I have thought good here to express:

*Exhalat seu terra sinus, seu noxius aer
Causa mali; seu cum gelidus non sufficit humor,
Torrida per venas concrescunt semina flammæ.*

Whatsoever it be, he thus warranteth the cure.

*Tunc virosa tibi sumes, multumque domabis
Castorea, adritu silicis lentescere coges.
Ex ebore huc trito pulvis lectore feratur
Admiscensq; diu facies concrescere utrumque.
Mox laetis liquidos sensim superadde fluores,
Ut non cunctantes hauritus infundere cornu
Inserto possis, furiasque repellere tristes.*

Armenia

Armetia a King of *Valenia*, prescribeth this form for the cure of this evill: let the Dog be put into the water, so as the hinder-legs do only touch the ground, and his fore-legs be tyed up like hands over his head, and then being taken again out of the water, let his hair be shaved off, that he may be pieled untill he bleed: then anoint him with Oyl of Beets, and if this do not cure him within seven days, then let him be knocked on the head, or hanged out of the way.

Albertus.

When a young male Dog suffereth madness, shut him up with a Bitch; or if a young Bitch be also oppressed, shut her up with a Dog, and the one of them will cure the madness of the other.

Blondus.

But the better part of this labor, is more needful to be employed about the curing of men, or other creatures which are bitten by Dogs, then in curing or preventing that natural infirmity. Wherefore it is to be remembred, that all other poysoned wounds are cured by incision and circumcising of the flesh, and by drawing plaisters, which extract the venom out of the flesh, and comfort nature; and by Cupping-glasses, or burning Irons, (as *Caelius* affirmeth) upon occasion of the miraculous fiction of the Temple door Key of *S. Bellus*, neer *Rhodigium*; for it was believed, that if a mad man could hold that Key in his hand red hot, he should be delivered from his fits for ever.

The cure of a man or beast bitten by a mad Dog.

There was such another charm or incantation among the *Apuleians*, made in form of a prayer against all bitings of mad Dogs, and other poysons, unto an obscure Saint (called *Vithus*) which was to be said three Saterdays in the evening, nine times together, which I have here set down for no other cause but to shew their extream folly.

*Ame Vithu pellicane
Oram qui tenes Appulam,
Littusque Polygnanicum,
Qui morsus rabidos levat,*

*Irasque canum mitigas,
Tu sancte rabiem asperam
Ritusque canis luridos,
Tu levem prohibe luem.*

A foolish charm and prayer to *Vithus*

I procul hinc rabies, procul hinc furor omnis adesto.

But to come to the cure of such as have been bitten by mad Dogs: First I will set down some compound medicines to be outwardly applyed to the body: Secondly, some simple or uncompounded medicines: In the third place such compounded and uncompounded potions, as are to be taken inwardly against this poyson.

For the outward compound remedies, a plaister made of *Opponax* and Pitch, is much commended, which *Menippus* used, taking a pound of Pitch of *Brutias*, and four ounces of *Opponax* (as *Aëlius* and *Aëurius* do prescribe) adding withall, that the *Opponax* must be dissolved in Vinegar, and afterward the Pitch and that Vinegar must be boyled together, and when the Vinegar is consumed, then put in the *Opponax*, and of both together make like taynters or splints, and thrust them into the wound, so let them remain many days together, and in the mean time drink an Antidote of Sea-crabs and Vinegar, (for Vinegar is alway pretious in this confection.) Other use *Basilica*, Onyons, Rue, Salt, rust of Iron, White bread, seeds of Horehound, and Triacle: but the other plaister is most forcible to be applyed outwardly, above all medicines in the world.

Dioscorides.

For the simple and uncompounded medicines to be taken against this fore, are many: As Goosegrease, Garlike, the root of wilde Roses drunk; bitter Almonds, leaves of Chickweed, or Pimpernel, the old skin of a Snake pounded with a male-Sea-crab, Betony, Cabbage leaves, or stalks, with Parsneps and Vinegar, Lime and Sewet, powder of Sea-crabs with Hony; powder of the shels of Sea-crabs, the hairs of a Dog laid upon the wound, the head of the Dog which did bite, mixed with a little *Euphorbium*; the hair of a Man with Vinegar, dung of Goats with Wine, Walnuts with Hony and Salt, powder of Fig-tree in a Sear-cloth, Fitches in Wine, *Euphorbium*; warm Horse-dung, raw Beans chewed in the mouth, Fig-tree-leaves, green Figs with Vinegar, fennel stalks, *Gentiana*, dung of Pullen, the liver of a Buck-Goat, young Swallows burned to powder, also their dung; the urine of a Man, an *Hyena* skin, Flower-deluce with Honey, a Sea-herb called *Kakille*, *Silphum* with Salt, the flesh and shels of Snayls, Leek-seeds with Salt, Mints, the tail of a Field-mouse cut off from her alive, and she suffered to live, roots of Burs, with Salt of the Sea-Plantain, the tongue of a Ram with Salt, the flesh of all Sea-fishes, the fat of a Sea-calf and Vervine; beside many other superstitious Amulets which are used to be bound to the arms, necks, and breasts, as the Canine-tooth bound up in a leaf and tyed to the arm; a Worm bred in the dung of Dogs hanged about the neck; the root of *Gentian* in an *Hyena* skin, or young Wolfs skin, and such like; whereof I know no reason beside the opinion of men.

The inward compound potions or remedies against the bitings of Dogs may be such as these. Take Sea-crabs, and burn them with twigs of white Vines, and save their ashes, then put to them the powder of *Gentian* root well cleansed, and small beaten, and as oft as need requireth take two spoonfuls of the first, and one of the second, and put them into a cup of pure and unmixed Wine, and so drink it for four days together, being well beaten and stirred, so as the Wine be as thick as a Cawdle; and there is nothing more forcible then Sea-crabs, *Hiera*, *Diascincum*, powder of Walnuts in warm rain Water, Triacle, *Castoreum*, Pills, Spurge-seed, and a decoction of *Indian* thorn with Vervine given in water. These may serve for several compound inward remedies against these poysons, and now follow the simple.

First eating of Garlike in our meat, drinking of Wormwood, Rams flesh burned and put into Wine so drunk. There is an Herb called *Alysson*, by reason of the power it hath against this evill, which being bruised and drunk, cureth it. The liver of a Boar dried and drunk in Wine, hath the same operation. Jews lime drunk in water, Leeks and Onyons in meat, Dogs blood, the head, the vein

under the tongue (commonly supposed to be a worm) and the liver of the Dog which hath done the hurt, are also prescribed for a remedy of this evill: but especially the liver or rennet of a young Puppy, the rinde of a wilde Fig-tree, a dram of *Castoreum*, with Oyl of Roses, Centaury, or *Chamaeleon*; the root of a wilde Rose; (called *Cynorhodon* and *Cynosbaton*) *Ellebor*; the brain of a Hen drunk in some liquor, Sorrel, Honey, Mints, and Plantaine: but *Pimpinella Germanica* is given to all Cattel which are bitten by a mad Dog. Besides many other such like, which for brevity sake I omit, concluding against all superstitious curing by Inchantments or supposed Miracles, such as is in a certain Church of *S. Lambert*, in a City of *Picardy*, where the Mafs Priests, when a man is brought unto them having this evill, they cut a crosse in his forehead, and lay upon the wound a piece of *S. Lamberts* stole burning, (which they say (though falsly) is reserved to this day without diminution) then do they sow up the wound again, and lay another plaister upon it, prescribing him a dyet; which is to drink water, and to eat hard Eggs, but if the party amend not within forty days, they binde him hand and foot in his bed, and laying another bed upon him, there strangle him, as they think without all sin) and for preventing of much harm that may come by his life, if he should bite another. This story is related by *Alysius*, and it is worth the noting, how much rather accompanieth superstitious humane inventions, and the vain presumptuous confidence of Cross-worshippers: and thus much of the madness of Dogs; and the cure thereof in men and beasts.

In the next place, the conclusion of this tedious discourse followeth, which is, the natural medicines arising out of the bodies of Dogs, and so we will tye them up for this time.

The natural medicines.]

Whereas the inward parts of men are troubled with many evils, it is delivered for truth, that if little *Melitan* Dogs, or young sucking Puppies, be laid to the breast of a childe or man that hath infectious passions or pains in his entrails, the pain will depart from the man into the beast; for which cause they burned them when they were dead. *Serenus* doth expresse this very elegantly, saying;

*Quin etiam catulum lactentem apponere membris
Convenit, omne malum transcurrere fertur in illum.
Cui tamen extincto munus debetur humani,
Humanos quia contactus mala tanta sequuntur,
Et junctum vitium ducit de conjuge conjux.*

*Amatus.
Hippocrates.*

Furnerius.

If a Whelp be cut asunder alive, and laid upon the head of a mad melancholike woman, it shall cure her, and it hath the same power against the Spleen. If a woman grow barren after she hath born children, let her eat young Whelp-flesh, and *Polypus* fish sod in Wine and drink the broath, and she shall have ease of all infirmities in her stomach and womb. Water distilled out of Whelps, causeth that pieled or shaven places shall never have more hair grow upon them.

With the fat of whelps, bowelled and sod till the flesh come from the bones, and then taken and put into another Vessel, and the weak, resolute, or paralytike members being therewith anointed, they are much eased if not recovered. *Alysius* saith, he made experience of Puppies sod alive in Oyl, whereby he cured his Gowty legd Horses, and therefore it cannot chuse but be much more profitable for a man.

The skin of a Dog held with the five fingers, stayeth Distillations; it hath the same operation in gloves and stockins, and it will also ease both Ach in the belly, head, and feet, and therefore it is used to be worn in the shoes against the Gout.

Pliny.

The flesh of mad Dogs is salted, and given in meat to them which are bitten by mad Dogs for a singular remedy. The blood is commended against all intoxicating poysons and pains in the small guts, and it cureth scabs. The fat is used against deafness of the ears, the Gout, Nits in the head, and incontineny of urine, given with Alum. A plaister made of the Marrow of a Dog and old Wine, is good against the falling of the fundament. The hair of a black Dog easeth the Falling sickness, the Brains of a Dog in Lint and Wool laid to a mans broken bones for fourteen days together, doth consolidate and joyn them together again, which thing caused *Serenus* to make these excellent verses:

*Infandum dictu cunctis procul absit amicis,
Sed fortuna potens omen convertat in hostes,
Vis indigna novo si parserit ossa fragore,
Conveniet cerebrum blandi Canis addere fractis,
Linthea deinde superque inductum nectere lanas
Sæpius & succos conspergere pinguis olivi,
His septem credunt revale scire cuncta diebus.*

The brain-pan or skull of a Dog clove asunder, is applyed to heal the pain in the eyes; that is, if the right eye be grieved, thereunto apply the right side of the skull, if the left eye, the left side.

The vertues of a Dogs head made into powder are both many and unspeakable, by it is the biting of mad Dogs cured; it cureth spots and bunches in the head; and a plaister thereof made with Oyl of Roses, healeth the running in the head: it cureth also all tumors in privy parts, and in the seat, the chippings in the fingers, and many other diseases.

The

The powder of the teeth of Dogs, maketh Childrens teeth to come forth with speed and ease, and if their gums be rubd with a Dogs tooth, it maketh them to have the sharper teeth: and the powder of these Dogs teeth rubbed upon the gums of young or old, easeth Tooth-ach, and abateth swelling in the gums. The tongue of a Dog is most wholesome both for the curing of his own wounds by licking, as also of any other creatures. The Renner of a Puppy drunk with Wine, dissolveth the Colick in the same hour wherein it is drunk: and the Vomit of a Dog laid upon the belly of a Hydropick man, causeth water to come forth at his stool. The gall healeth all wheals, and blisters after they be pricked with a Needle, and mingled with Honey it cureth pain in the eyes, and taketh away white spots from them: likewise infused into the ears, openeth all stoppings, and cureth all inward pains in them.

Rasis.

Sextus.

Pliny.

Æsculapius.

The Spleen drunk in Urine, cureth the Spleenetick; the mist being taken from the Dog alive, hath the same vertue to help the mist of man. The skin of Bitches wherein they conceive their Puppies (which never touched the earth) is pretious against difficulty in Childe-birth, and it draweth the Infant out of the womb. The milk of a Bitches first whelping, is an antidote against poyson, and the same causeth hair never to come again, if it be rubbed upon the place where hairs are newly pulled off: Also infused into the eyes, driveth away the whiteness of them. Likewise there is no better thing to anoint the gums of young children withall, before they have teeth, for it maketh them to come forth with ease: it easeth likewise the pain of the ears, and with all speed healeth burnt mouths by any hot meat: *Ora ambusta cibo sanabis lacte Canino.*

Dioscorides.

The urine of a Dog taketh away spots and warts, and being mingled with Salt of Nitre, wonderfully easeth the Kings Evil. The dung of Dogs (called by the Apothecaries *Album Græcum*) because the white is best, being ingendred by eating of bones, and therefore hath no ill savour; Galen affirmeth, that his Masters in Physick, used it against old sores, Bloody fixes, and the Quinsie; and it is very profitable to stanch the bloud of Dogs; and also against the inflammations in the breast of Women mingled with Turpentine. It was well prescribed by Avicen, to expell congealed bloud out of the stomach and bladder, being taken thereof so much in powder as will lye upon a Golden Noble.

Of the Ethiopian E.A.L.

There is bred in Ethiopia a certain strange Beast about the bigness of a Sea-horse, being of colour black or brownish: it hath the cheeks of a Boar, the tail of an Elephant, and horns above a cubit long, which are moveable upon his head at his own pleasure like ears; now standing one way, and anon moving another way, as he needeth in fighting with other Beasts, for they stand not stiffe, but bend flexibly; and when he fighteth, he alway stretcheth out the one, and holdeth in the other, of purpose as it may seem, that if one of them be blunted and broken, then he may defend himself with the other. It may well be compared to a Sea-horse, for above all other places it loveth best the waters.

Pliny.

Solinus.

Of the ELEPHANT.

There is no creature among all the Beasts of the world, which hath so great and ample demonstration of the power and wisdom of Almighty God as the Elephant: both for proportion of body and disposition of spirit; and it is admirable to behold the industry of our ancient forefathers, and noble desire to benefit us their posterity, by searching into the qualities of every Beast, to discover what benefits or harms may come by them to mankind: having never been afraid either of the wildest, but they tamed them; the fiercest, but they ruled them; and the greatest, but they also set upon them. Witness for this part the Elephant, being like a living Mountain in quantity and outward appearance, yet by them so handled, as no little Dog became more serviceable and tractable.

The great use of the consideration of an Elephant.

Among all the Europeans the first possessor of Elephants, was Alexander Magnus, and after him Antigonus, and before the Macedonians came into Asia, no people of the world, except the Africans and the Indians, had ever seen Elephants. When Fabritius was sent by the Romans to King Pyrrhus in Ambassage, Pyrrhus offered to him a great sum of money, to prevent the War, but he refused private gain; and preferred the service of his Countrey: the next day he brought him into his presence, and thinking to terrifie him, placed behinde him a great Elephant, shadowed with cloth of Arras; the cloth was drawn, and the huge Beast instantly laid his trunk upon the head of Fabritius, sending forth a terrible and direful voyce: whereat Fabritius laughing, perceiving the policy of the King, gently made this speech;

The first man in Europe possessor of Elephants.

Pausanias.

Plutarch.

Neque heri aurum, neque hodie b ssa me permovit.

I was neither tempted with thy Gold yesterday, nor terrified with the sight of this Beast to day: and so afterward Pyrrhus was overcome in War by the Romans, and Manlius Curius Dentatus did first of all bring Elephants in Triumph to Rome, calling them *Lucanæ Boves*, Oxen of the Wood, about

Eutropius.

the 472. year of the City; and afterward in the year of *Rome's* building 502. when *Metellus* was high Priest, and overthrew the *Carthaginians* in *Sicily*, there were 142 Elephants brought in Ships to *Rome* and led in triumph, which *Lucius Piso* afterward, to take away from the people opinions of the fear of them, caused them to be brought to the stage to open view and handling, and so slain; which thing *Pompey* did also by the slaughter of five hundred Lions and Elephants together; so that in the time of *Gordianus*, it was no wonder to see thirty and two of them at one time.

Julius Capit.

Of the several names in divers languages.

The original of the *Cesars*.

An Elephant is by the *Hebrews* called *Behemah*, by way of excellency, as the *Latins* for the same cause call him *Bellua*, the *Chaldeans* for the same word, *Deut. 14.* translate *Beira*; the *Arabians*; *Bebitz*; the *Persians*, *Behad*; and the *Septuagint*, *Ktene*; but the *Grecians* vulgarly *Elephas*, not *Quasf* *Elebas*, because they joyn copulation in the water, but rather from the *Hebrew* word *Dephil*; signifying the Ivory tooth of an Elephant (as *Munster* well observeth.) The *Hebrews* also use the word *Schin* for an Elephants tooth. Moreover *Hesychius* called an Elephant in the *Greek* tongue *Perissus*; the *Latins* do indifferently use *Elephas* and *Elephantus*; and it is said that *Elephantus* in the *Punick* tongue, signifieth *Cesar*: whereupon when the Grandfather of *Julius Cesar* had slain an Elephant, he had the name of *Cesar* put upon him.

The *Italians* call this beast *Leofante*, or *Lionfante*; the *French*, *Elephante*; the *Germans*, *Helfant*; the *Illyrians*, *Slon*. We read but of three appellative names of Elephants; that is of one, called by *Alexander* the great *Ajax*, because he had read that the buckler of great *Ajax* was covered with an Elephants skin, about whose neck he put a Golden collar, and so sent him away with liberty. *Antiochus* one of *Alexander's* successors had two Elephants, one of them he likewise called *Ajax*, in imitation of *Alexander*, and the other *Patroclus*, of which two this story is reported by *Antipater*. That when *Antiochus* came to a certain ford or deep water, *Ajax* which was always the Captain of the residue, having sounded the depth thereof, refused to passe over, and turned back again, then the King spake to the Elephants and pronounced, that he which would passe over should have principality over the residue: whereupon *Patroclus* gave the adventure, and passed over safely, and received from the King the silver trappings and all other prerogatives of principality; the other seeing it (which had always been chief till that time) preferred death before ignominy and disgrace, and so would never after eat meat but famished for sorrow.

Countries of the breed of Elephants.

Diodorus.

Ælianus.

Philostratus.

Solinus.

They are bred in the hot Eastern Countries, for by reason they can endure no cold, they keep only in the East and South. Among all, the *Indian* Elephants are greatest, strongest, and tallest, and there are among them of two sorts, one greater (which are called *Prosti*) the other smaller (called *Taxile*) They be also bred in *Africa*, in *Lybia*, much greater then a *Nysæan* Horse, and yet every way inferiour to the *Indian*; for which cause, if an *African* Elephant do but see an *Indian*, he trembleth, and laboureth by all means to get out of his sight, as being guilty of their own weakness.

Vertomannus.

Leo Afer.

Paul Venetus.

There are Elephants also in the *Isle Taprobane*, and in *Sumatra* in *Africa*. They are bred in *Lybia*, in *Æthiopia*, among the *Troglodyte*, and in the Mountain *Atlas*, *Syries*, *Zames*, and *Sala*, the seven Mountains of *Tingitania*, and in the Countrey of *Basman*, subject to the great *Cham*. Some Authors affirm, that the *African* Elephants are much greater then the *Indian*, but with no greater reason then *Columella* writeth, that there be as great beasts found in *Italy* as Elephants are: whereunto no found Author ever yeilded.

The height and stature of Elephants.

Of all earthly creatures an Elephant is the greatest: for in *India* they are nine cubits high, and five cubits broad; in *Africa* fourteen or fifteen full spans, which is about eleven foot high and proportionable in breadth, which caused *Ælianus* to write, that one Elephant is as big as three *Bugils*; and among these the Males are ever greater then the Females. In the Kingdom of *Melinda* in *Africk*, there were two young ones not above six monthes old, whereof the least was as great as the greatest Ox, but his flesh was as much as you shall finde in two Oxen; the other was much grater.

Vertomannus.

The colour and several parts.

Of the use of his skin.

Pliny.

Their colour is for the most part mouse-colour, or black; and there was one all white in *Æthiopia*. The skin looketh pieled and scabby; it is most hard on the back, but softer underneath the belly, having no covering of hair or gristles, nor yet help by his tail to drive away the flies, for that evill doth this beast feel in his great body, but alway hath crevices in his skin, which by their savour do invite the little flies to a continual feast, but when by stretching forth they have received the swarms, by shrinking together again, they inclose the flies, and so kill them: so that these crevices in his skin, are unto him in stead of a main, tail, and hair: yet there are some few hairs which grow scattering upon his hide, whereof some have been brought out of *America* into *Germany*, which were two palms long, but not so stiffe as Swines.

Gillius.

Pliny.

Vertomannus.

Of their teeth.

Ælianus.

Their skin is so hard and stiffe, that a sharpe sword or iron cannot pierce it. Their head is very great, and the head of a man may easily enter into their mouth, as a finger into the month of a Dog; but yet their ears and eyes are not equivalent to the residue of their proportion: for they are small like the wings of a Bat or a Dragon, those of the *Æthiopian Sambri* want ears altogether. Their eyes are like the eyes of Swine, but very red; they have teeth of either side four, wherewith they grind their meat like meal, and they have also two other which hang forth beyond the residue, in the males downward, and these are the greater and crooked; but in the females upward and they are the smaller and straight: the one of them they keep alwayes sharp, to revenge injuries; and with the other they root up plants and trees, for their meat; so that nature hath armed both sexes with



Gillius.
Pliny.

with these for their chiefest defence; and with these the females are calved at the first, and indued from the mothers belly, and appear so soon as they come forth; the males not so quickly, but rather after the manner of Bores and Sea-horses, they hang out of their mouthes, and grow to be ten foot long, whereof they make posts of houses in some Countreys, and call them *Ebora*, that is, young Ivory; which caused *Martial* to write thus;

*Grandia taureorum portant qui corpora, quæris
An Lyctas possim sustinuisse trabes.*

There is a certain Book extant, without the name of the Author, written of *Judea* or the *Holy land*, wherein the Author affirmeth that he saw an Elephants tooth sold to a *Venetian* Merchant for six and thirty Ducats, it being fourteen spans long, and four spans broad, and it weighed so heavy, that he could not move it from the ground.

Vartomanus also saith, that he saw in the Isle of *Sumatra*, two Elephants teeth, which weighed three hundred six and thirty pounds. This is certain, that the teeth of those Elephants which live in the Marshes and watry places, are so smooth and hard, as they seem intractable, and in some places they have holes in them, and again certain bunches as big as hail-stones, which are so hard, as no art or instrument can work upon them.

Philostratus.

The Elephants of the Mountains have lesser and whiter teeth, fit to be applyed to any work, but the best of all, are the teeth of the *Campestral* and field Elephants, which are whitest and softest, and may well be handled without all pain. The teeth of the female are more pretious then of the male, and these they lose every tenth year; which falling off, they bury and cover in the earth, pressing them down by sitting upon them, and then heal them over with earth by their feet, and so in short time the grasse groweth upon them: for, as when they are hunted they know it is for no other cause then their teeth; so also when they lose their teeth, they desire to keep them from men, lest the virtues of them being discovered, they which bear them should enjoy the lesse peace and security.

The finding of
hidden teeth.

Ælianus.

It is admirable what devises the people of *India* and *Africa* have invented by natural observation, to finde out these buried teeth, which unto us living in the remote parts of the world, we would judge impossible by any ordinary or lawful course, except we should turn up the earth of a whole Countrey, or go to work by diabolical conjuration; yet have they found out this facile and ready course. In the woods or fields where they suspect these teeth to be buried, they bring forth pots or bottles of water, and disperse them, here one, there another, and so let them stand, and tarry to watch them, so one sleepeth, another singeth, or bestoweth his time as he pleaseth; after a little time, they go and look in their pots, and if the teeth lie near their bottles, by an unpeackable and secret attractive power in nature, they draw all the water out of them that are near them, which the watchman taketh for a sure sign, and so diggeth about his bottle, till he finde the tooth: but if their bottles be not emptied, they remove to seek in another place.

A wonderful
natural secret.

These Ivory teeth have been alway of great estimation among all the Nations that ever knew them, the *Ethiopians* payed for a tribute unto the King of *Persia* every third year twenty of these teeth hung about with gold and Jet-wood. These are sold by weight, and there be many which deceive the world with the bones of Fishes in stead hereof, but the true Ivory is pater and heavier, and falling upon the ground will easily break, whereas the bones of Fishes are more tenacious, light and strong. It is like to the *Chernites* wherein *Darius* was entombed, and the Marble called *Lapis Coralliticus*, Coral stone: like unto this is the *Alagi* stone, and the *Pederos* Jewel. With this Ivory they made images and statues for their Idol gods, as one for *Pallas* in *Athens*, for *Esculapius* in *Epidaurum*, for *Venus* under the name of *Urania* by *Phidias*, whereupon she was called *Elephantina*, for *Apollo* at *Rome*: and therefore *Pausanias* wondereth at the *Grecians* that spared no cost for the vain worship of their gods, for they brought of the *Indians* and *Ethiopians* Ivory to make their Images with more pomp and ostentation: besides of Ivory they make the hasts of knives, and also the best combs, and *Solomon* as appeareth 3 Reg. 10. had a throne of Ivory covered all over with gold, for the costs and charge whereof he could not expend lesse then thirty thousand talents.

Rob. Cenalis.

Pliny.

Whether Ele-
phants have
horns.

The greatness of these appeareth by their use, for *Polybius* reporteth by the relation of *Ga'ussa* a Noble man and a great traveller in *Africa*, that with them they made posts for houses, and racks to lay their Cattels meat upon, and likewise folds to enclose them. *Apelles* made an Ink of Ivory, which was called Elephants inke, and he painted therewith. It hath been affirmed by *Ælianus* and some writers following *Pliny*, that these teeth are horns, and that Elephants are horned beasts, which error rose upon the occasion of these words of *Pliny*; *Elephantos & arietes candore tantum cornibus assimilatis, in Santonum litore reciprocato destituit Oceanus*: where *Ælianus* finding a resemblance betwixt Rams and Elephants in their white horns, was contented to apply that name to them both, which appertaineth only to one; for *Pliny* himself lib. 18. sheweth his meaning by another like speech, of their whetting their horns upon trees, and *Rhinoceros* upon stones: for except he had named horns in the first place it might have been questioned whether *Rhinoceros* had any horns, but rather teeth in the second place.

But whatsoever were the words or opinion of *Pliny*, it is most certain, that after *Herodotus* and other ancient writers, it is safer to call these teeth then horns, and I will briefly set down the reasons

reasons of *Philostatus*, that will have them to be teeth; and afterward of *Gravaldus*, *Ælianus*; and *Pausanias*, that would make them horns, and so leave the Reader to consider whether opinion he thinketh most agreeable to truth. First, that they are not horns, it is alleadged that horns fall off and grow every year again, especially of Harts, and grow forth of their heads; but teeth which are called *Fanne* or *Gang-teeth*, standing out of the mouth, fall off together, and are given for weapon and defence to beasts, and such are an Elephants. Again, a horn hath a certain line or circle neer the root, which is covered every year, but this cometh up like a stony substance, without all circle or cover, and therefore it cannot be a horn. Moreover, those creatures are said to have horns that have cloven hoofs, this hath no cloven hoof, but only five distinct fingers upon a foot. Lastly, all horned beasts have an empty hollownes in their horns (except Harts) but this is sound and full thoroughout, except a little passage in the middle like a hole into a tooth: and thus say they which will have them called teeth.

Now on the contrary, those which will have them horns, make these arguments. First, as the Elks have their horns grow out of their eye-lids, the *Rhinoceros* or *Ethiopian* Bulls out of their nose, so as it is not unnatural for the Elephant to have his horns grow out of his mouth. Again, horns fall off and come again in old beasts, but teeth do not so, and therefore these are horns and not teeth; the power of fire cannot alter teeth, but these teeth break if you go about to change their proportion or figure, but horns of Oxen and Elephants may be stretched, bended, altered, straightned, and applyed to what fashion soever you will. Again, teeth grow out of the gums and cheek-bone, as it is apparent; but horns grow out of the scull and temples, and so do the Elephants, as by observation every man may discern. Lastly, as nature hath given another shape and greater proportion of body to Elephants then to any other beasts, so also it is not unreasonable that it vary in the placing of his horns, for they grow downward, and the very mole and quantity of his body is sufficient to arme him against the fear of death. Thus they argue for the horns of Elephants.

The Poets have a pretty resemblance of dreams, comparing true dreams to horns, and false dreams to Ivory, because falsehood is ever more burnished, then naked and ragged truth. And besides the eye of man is translucent, and containeth in it a horny substance, and by the eye we alway receive the best assurance, but by the mouth (signified by teeth) are many falsehoods vented: and for that horns turn upward to heaven, the fountain of truth, but the teeth of an Elephant grow downward towards the earth the mother of error. And for this cause *Aeneas* by *Virgil* and *Homer*, is said to come in at the horny gate of *Somnus*, and to go forth at the Ivory: *Virgil* Verses are these:

*Sunt geminae Somni portae, quarum altera fertur
Cornu, qua veris facilis datur exitus umbris.
Altera candenti perfecta nitens Elephanto,
Sed falsa ad caelum mittunt insomnia manes.
His ubi dum natum Anchises, unaque Sibyllam
Prosequitur dictis, portaque emittit eburna.*

And here we will leave, and prosecute no further this discourse of their horns and teeth, but proceed to the other outward parts of this beast.

The tongue is very small though broad, his trunk called *Proboscis* and *Promusca*, is a large hollow thing hanging from his nose like skin to the groundward; and when he feedeth it lyeth open, like the skin upon the bill of a Turkey-cock, to draw in both his meat and drink, using it for a hand, and therefore improperly it is called a hand. For by it he receiveth of his keeper whatsoever he giveth him, with it he overthroweth trees, and wheresoever he swimmeth, through it he draweth breath. It is crooked, gristly, and inflexible at the root next to the nose: within it hath two passages, one into the head and body by which he breatheth, and the other into his mouth, whereby he receiveth his meat: and herein is the work of God most wonderful, not only in giving unto it such a divers proportion and anatomy, but also giving him reason to know this benefit of it, that so long as he is in the water and holdeth up that trunk, he cannot perish.

*Aristotle.
Ælianus.*

Gillius.

Vertomannus.

With this he fighteth in war, and is able to take up a small piece of money from the earth: with it he hath been seen to pull down the top of a tree, which twenty four men with a rope could not make to bend. With it he driveth away his Hunters when he is chased, for he can draw up therein a great quantity of water, and shoot it forth again, to the amazement and overthrow of them that persecute him. The *Moors* say that he hath two hearts, one wherewithal he is incensed, and another whereby he is pacified.

But the truth is, as *Aristotle* in the dissection of the heart observed, there is a double ventricle and bone in the heart of an Elephant. He hath a Liver without any apparent gall, but that side of the Liver being cut, whereon the gall should lie, a certain humour cometh forth like a gall. Wherefore *Ælianus* saith, he hath his gall in his maw-gut, which is so full of sinews, that one would think he had four bellies; in this receiveth he his meat, having no other receptacle for it. His intrails are like unto a Swines, but much greater.

His Liver four times so great as an Oxes, and so all the residue except the Milt. He hath two pappes a little beside his brest under his shoulders, and not between his hinder legs or loins, they

Aristotle.
are

are very small and cannot be seen on the side. The reasons hereof are given, first that he hath but two pappes, because he bringeth forth but one at a time; and they stand under his shoulders like an Apes, because he hath no hoofs but distinct feet like a mans; and also because from the breast floweth more abundance of milke.

The genital part is like a Horses, but lesser then the proportion of his body affordeth: the stones are not outwardly seen, because they cleave to his reins. But the female hath her genital betwixt her thighes: the forelegs are much longer then the hinder legs, and the feet be greater. His legs are of equall quantity, both above and beneath the knees, and it hath ancle bones very low. The articles do not ascend so high as in other creatures, but kept low neer the earth. He bendeth his hinder legs like a mans when he sitteth, but by reason of his great weight he is not able to bend on both sides together, but either leaneth to the right hand or to the left, and so sleepeth: It is false that they have no joints or articles in their legs, for when they please they can use, bend, and move them, but after they grow old, they use not to lie down or strain them, by reason of their great weight, but take their rest leaning to a tree: and if they did not bend their legs, they could never go any ordinary and stayed pace. Their feet are round like a Horses, but so as they reach from the middle every way two spans length, and are as broad as a bushel, having five distinct toes upon each foot, the which toes are very little cloven, to the intent that the foot may be stronger; and yet parted, that when he treadeth upon soft ground, the weight of his body presse not down the leg too deep. He hath no nails upon his toes, his tail is like an Oxes tail, having a little hair at the end, and the residue thereof peeled and without hair: He hath not any brittle hairs to cover his back. And thus much for their several parts and their uses.

There is not any creature so capable of understanding as an Elephant, and therefore it is requisite to tarry somewhat the longer in expressing the several properties, and natural qualities thereof, which sundry and variable inclinations, cannot choose but bring great delight to the Reader. They have a wonderful love to their own Countrey, so as although they be never so well delighted with divers meats and joyes in other places, yet in memory thereof they send forth tears, and they love also the waters, rivers, and marishes, so as they are not unfitly called *Riparii*, such as live by the rivers sides: although they cannot swim by reason of their great and heave bodies, untill they be taught. Also they never live solitary, but in great flocks, except they be sick or watch their young ones, and for either of these they remain adventurous unto death, the eldest leadeth the herd, and the second driveth them forward, if they meet any man they give him way, and go out of his sight.

Their voice is called by the word *Barrire*, that is, to bray, and thereupon the Elephants themselves are called *Barri*; for his voice cometh out of his mouth and nostrils together, like as when a man speaketh breathing, wherefore *Aristotle* calleth it Raucity, or hoarseness, like the low sound of a Trumpet, this sound is very terrible in battails as shall be afterward declared.

They live upon the fruits of Plants and roots, and with their trunks and heads, overthrow the tops of trees, and eat the boughs and bodies of them, and many times upon the leaves of trees he devoureth Chamæleons, whereby he is poisoned and dyeth, if he eat not immediately a wilde Olive. They eat earth often without harm, but if they eat it seldom, it is hurtful and procureth pain in their bellies, so also they eat stones. They are so loving to their fellows, that they will not eat their meat alone, but having found a prey, they go and invite the residue to their feasts and chear, more like to reasonable civil men, then unreasonable brute beast. There are certain noble Melons in *Ethiopia*, which the Elephants being sharp smelling beasts, do winde a great way off, and by the conduct of their noses come to those Gardens of Melons, and there eat and devour them. When they are tamed they will eat Barlie either whole or ground: of whole at one time is given them nine *Macedonian* Bushels, but of Meal six, and of drink either wine or water, thirty *Macedonian* pints at a time, that is, fourteen gallons; but this is observed, that they drink not wine except in war, when they are to fight, but water at all times, whereof they will not tast, except it be muddy and not clear, for they avoid clear water, loathing to see their own shadow therein; and therefore when the *Indians* are to passe the water with their Elephants, they chuse dark and cloudy nights wherein the Moon affordeth no light. If they perceive but a Mouse run over their meat, they will not eat thereof, for there is in them a great hatred of this creature. Also they will eat dried Figs, Grapes, Onions, Bulrushes, Palmes, and Ivy leaves: There is a Region in *India*, called *Phalacrus*, which signifieth Balde, because of an herb growing therein, which causeth every living thing that eateth thereof, to lose both horn and hair, and therefore no man can be more industrious or wary to avoid those places, then is an Elephant, and to forbear every green thing growing in that place when he passeth thorough it.

It will forbear drink eight dayes together, and drink wine to drunkenness like an Ape. It is delighted above measure with sweet favours, ointments, and smelling flowers, for which cause their keepers will in the Summer time lead them into the medowes of flowers, where they of themselves will by the quickness of their smelling, chuse out and gather the sweetest flowers, and put them into a basket if their keeper have any; which being filled, like dainty and neat men, they also desire to wash, and so will go and seek out water to wash themselves, and of their own accord return back again to the basket of flowers, which if they find not, they will bray and call for them: Afterward being led into their stable, they will not eat meat untill they take of their flowers and dresse the brims of their mangers therewith, and likewise strew their room or standing place,

Cælius.
Gillius.

Their inward
natural parts.

Ælianus.
Izetzus.
The places of
their abode.

Piny.

Leo Afer.

Festus.
Philomela
author.

The meat of
wilde Ele-
phants.
Pliny.
Solinus.

Ælianus.
Hermolaus.

Ælianus.
Simocratus.
A secret.
Pliny.
A secret in a
Countrey of
India.
Ælianus.

Their love to
sweet flowers.
Ælianus.

place, pleasing themselves with their meat, because of the favour of the flowers stuck about their cratch, like dainty fed persons which set their dishes with green herbs, and put them into their cups of wine.

Their pace is very slow, for a childe may overtake them by reason of their high and large bodies (except in their feare) and for that cause cannot swim: as also by reason that the toes of their feet are very short and smally divided. When they are brought into a Ship, they have a bridge made of wood, and covered with earth, and green boughs are set on either side, so that they imagine they go upon the land untill they enter into the Ship, because the boughs keep them from sight of the Sea. They are most chaste, and keep true unto their males without all inconstant love or separation, admitting no adulteries amongst them, and like men which taste of *Venus* not for any corporal lust, but for desire of heirs and successors in their families; so do Elephants without all unchaste and unlawful lust, take their venereal complements, for the continuation of their kinde, and never above thrice in all their dayes, either male or female suffer carnall copulation (but the female only twice.) Yet is their rage great when the female provoketh them, and although they fight not among themselves for their females, (except very seldom) yet do they so burn in this fury, that many times they overthrow trees and houses in *India* by their tuskes, and running their head like a Ram against them, wherefore then they keep them low and down by subtraction of their meate, and also bring some stranger to beat them. There was a certain cunning Hunter sent into *Mauritania*, by the *Roman* Emperor, to hunt and take Elephants; on a day he saw a goodly young Elephant in copulation with another, and instantly a third approached with a direful braying, as if he would have eaten up all the company, and as it afterward appeared, he was an arrival to the female, which we saw in copulation with the other male: when he approached neer, both of them set themselves to combat, which they performed like some unresistable waves of the Sea, or as the hills which are shaken together by an earthquake, wherein each one charged the other most furiously for their love, to the terror and admiration of all the beholders, and so at last became both disarmed of their teeth and horns by their often blowes, before one had overcome the other, and so at last by the hunters were parted asunder, being ever afterward quiet from such contentions about their females for copulation.

Gillius.
The shipping
of Elephants.

Ælianus.

Ælianus.

The *Indians* separate the stables of the females far asunder from the males, because at that time they overthrow their houses. They are modest and shamefast in this action, for they seek the Deserts, Woods, and secret places for procreation, and sometimes the waters, because the waters do support the male in that action, whereby he ascendeth and descendeth from the back of the female with more ease: and once it was seen, that in *Virgea* (a Countrey of the *Corasens*) two Elephants did engender out of *India*, otherwise they couple not out of their own Countries. When they go to copulation, they turn their heads towards the East, but whether in remembrance of Paradise, or for the *Mandragoras*, or for any other cause I cannot tell: the female sitteth while she is covered. They begin to engender, the male at six, ten, twelve, fifteen or twenty year old, the female not before ten years old. They couple but five dayes in two years, and never after the female is filled till she have been clear one whole year; and after the second copulation, he never more toucheth his female. At that time the male breatheth forth at his nose a certain fat humour like a menstruous thing, but the female hath them not till her place of conception be opened: and alway the day after her filling, she washeth herself before she return to the flock.

The place and
manner of
their copulation.
Pliny.

Albertus.

Solinus.
The time of
copulation.
Arrianus.

Aristotle.
The time of
their going
with young.
Diodorus.
Pogius.
Ælianus.

The love of the
male to the fe-
male, and of
both to the
Calf.

Tzetzes.

Plutarch.
Ælianus.
Philostatus.

The time of their going with young is according to some, two years, and according to other, three; the occasion of this diversity is, because their time of copulation cannot certainly be known, because of their secrecy, for the greater bodies that beasts have, they are the lesse fruitful. She is delivered in great pain, leaning upon her hinder legs. They never bring forth but one at a time, and that is not much greater then a great Cow-calf (of three monthes old) which she nourisheth six or eight year. As soon as it is Calved, it seeth and goeth, and sucketh with the mouth, not with the trunk, and so groweth to a great stature.

The love of the
male to the fe-
male, and of
both to the
Calf.

Tzetzes.

Plutarch.
Ælianus.
Philostatus.

The females when they have calved are most fierce, for fear of their young ones, but if a man come and touch them, they are not angry, for it seemeth they understand that he toucheth them not for any desire to take or harm them, but rather to stroke and admire them. Sometimes they go into the water to the belly, and there calve for fear of the Dragon: the male never forsaketh her, but keepeth with her for the like fear of the Dragon, and feed and defend their young ones with singular love and constancy unto death; as appeareth by the example of one, that heard the braying of her calf fallen into a ditch, and not able to arise, the female ran unto it, and for hast fell down upon it, so crushing it to death, and breaking her own neck with one and the same violent love.

As they live in herds, so when they are to passe over a river or water, they send over the least or youngest first, because their great bodies together should not cause the deep water to swell or rise above their height: the other stand on the bank and observe how deep he wadeth, and so make account that the greater may with more assurance follow after the younger and smaller, then they the elder and taller; and the females carry over their Calves upon their snowts, and long eminent teeth binding them fast with their trunks, (like as with ropes or male girts, that they may not fall) being sometime holpen by the male; wherein appeareth an admirable point of natural wisdom, both in the carriage of their young, and in sending of the lesser foremost, not only for the reason aforesaid, but also because they being hunted and prosecuted, it is requisite that the greatest and

and strongest come in the rear and hindmost part, for the safeguard of the weaker, against the fury of their persecutors, being better able to fight then the foremost, whom in natural love and policy, they set farthest from the danger.

The bringing
of Elephants
out of Ships.

Mutius which had been thrice Consul affirmeth, that he saw Elephants brought on shore at *Puteoli* in *Italy*: they were caused to go out of the Ship backward, all along the bridge that was made for them, that so the sight of the Sea might terrifie them, and cause them more willingly to come on land, and that they might not be terrified with the length of the bridge from the continent. *Pliny* and *Solinus* affirm, that they will not go on shipboard, untill their keeper by some intelligible signe of oath, make promise unto them of their return back again.

A secret, if
true.

Aristotle.
Of their fight-
ing.

They sometimes, as hath been said, fight one against another, and when the weaker is overcome, he is so much abased and cast down in minde, that ever after he feareth the voice of the conquerour.

Gillius.

Ælianus.

Cælius.

Zoroastres.

Their fear of
Rams, Swine,
and other
beasts.

Volaterranus.

They are never so fierce, violent, or wilde, but the sight of a Ram tameth and dismayeth them, for they fear his horns; for which cause the *Egyptians* picture an Elephant and a Ram, to signifie a foolish King that runneth away for a fearfull sight in the field. And not only a Ram, but also the gruntling clamour or cry of Hogs: by which means the *Romans* overthrew the *Carthaginians* and *Pyrrhus* which trusted overmuch to their Elephants. When *Antipater* besieged the *Megarians* very straitly with many Elephants, the Citizens took certain Swine and anointed them with pitch, then set them on fire and turned them out among the Elephants, who crying horribly by reason of the fire on their bodies, so distempered the Elephants, that all the wit of the *Macedonians* could not restrain them from madness, fury, and flying upon their own company, only because of the cry of the Swine. And to take away that fear from Elephants, they bring up with them when they are tamed, young Pigges and Swine ever since that time. When Elephants are chased in hunting, if the Lions see them, they run from them like Hinde-calves from the Dogs of Hunters, and yet *Iphicrates* sayeth, that among the *Hesperian* or western *Ethiopians*, Lions set upon the young Calves of Elephants and wound them: but at the sight of the mothers, which come with speed to them, when they hear them cry, the Lions run away, and when the mothers finde their young ones imbrued in their own blood, they themselves are so enraged that they kill them, and so retire from them, after which time the Lions return and eat their flesh. They will not indure the favour of a Mouse, but refuse the meat which they have run over: in the river *Ganges* of *India*, there are blew Wormes of sixty cubits long having two armes; these when the Elephants come to drink in that river, take their trunks in their hands and pull them off. There are Dragons among the *Ethiopians*, which are thirty yards or paces long, these have no name among the inhabitants but Elephant-killers. And among the *Indians* also there is as an inbred and native hateful hostility between Dragons and Elephants: for which cause the Dragons being not ignorant that the Elephants feed upon the fruits and leaves of green trees, do secretly convey themselves into them or to the tops of rocks: covering their hinder part with leaves, and letting his head and fore part hang down like a rope, on a suddain when the Elephant cometh to crop the top of the tree, she leapeth into his face, and diggeth out his eyes, and because that revenge of malice is too little to satisfie a Serpent, she twineth her gable like body about the throat of the amazed Elephant, and so stranglenth him to death.

The cruelty of
the females to
their wounded
Calves.

Solinus.

Stat. Sebofi.

Ælianus.

Again they marke the footsteps of the Elephant when he goeth to feed, and so with their tails, net in and entangle his legs and feet: when the Elephant perceiveth and feeleth them, he putteth down his trunk to remove and untie their knots and gins; then one of them thrusteth his poisoned stinging head into his Nostrils, and so stops up his breath, the other prick and gore his tender belly-parts. Some again meet him and flie upon his eyes and pull them forth, so that at the last he must yeeld to their rage, and fall down upon them, killing them in his death by his fall, whom he could not resist or overcome being alive: and this must be understood, that forso much as Elephants go together by flocks and herds, the subtil Dragons let the foremost passe, and set upon the hindmost, that so they may not be oppressed with multitude.

Also it is reported that the blood of an Elephant is the coldest blood in the world, and that Dragons in the scorching heat of Summer, cannot get any thing to cool them, except this blood; for which cause they hide themselves in rivers and brooks whither the Elephants come to drink, and when he putteth down his trunk they take hold thereof, and instantly in great numbers leap up unto his ear, which is naked, bare and without defence: whereout they suck the blood of the Elephant untill he fall down dead, and so they perish both together.

Of *Cinnabaris*
or the best red
colour.

Of this blood cometh that ancient *Cinnabaris*, made by commixture of the blood of Elephants and Dragons both together, which alone is able, and nothing but it, to make the best representation of blood in painting. Some have corrupted it with Goats-blood, and call it *Milion*, and *Mimum*, and *Monocroma*: it hath a most rare and singular vertue against all poisons, beside the unmatched property aforesaid.

These Serpents or Dragons are bred in *Taprobana*, in whose heads are many pretious stones, with such naturall seals or figurative impressiions, as if they were framed by the hand of man, for *Podisippus* and *Tzetzes* affirm, that they have seen one of them taken out of a Dragons head, having upon it the lively and artificial stampe of a Chariot.

The fight of
Elephants.
Pliny.

Elephants are enemies to wilde Bulls, and the *Rhinoceros*, for in the games of *Pompey*, when an Elephant and a *Rhinoceros* were brought together, the *Rhinoceros* ran instantly and whet his horn upon a stone,

stone, and so prepared himself to fight, striking most of all at the belly of the Elephant, because he knew that it was the tenderest and most penetrable part of the body.

The *Rhinoceros* was as long as the Elephant, but the legs thereof were much shorter, and as the *Rhinoceros* sharpen their horns upon the stones, so do the Elephants their teeth upon trees: the sharpness of either yeeldeth not to any steel. Especially the *Rhinoceros* teareth and pricketh the legs of the Elephant. They fight in the woods for no other cause, but for the meat they live upon, but if the *Rhinoceros* get not the advantage of the Elephants belly, but set upon him in some other part of his body, he is soon put to the worst, by the sharpness of the Ivory tooth which pierceth through his more then buffe-hard skin (not to be pierced with any dart) with great facility, being set on with the strength of so able an adversary. The Tygre also feareth not an Elephant, but is fiercer and stronger, for he leapeth upon his head and teareth out his throat, but the Gryphins which overcome almost all beasts, are not able to stand with the Lions or Elephants.

The females are far more strong, chearful, and couragious then the males, and also they are apt to bear the greater burthens; but in War the male is more graceful and acceptable, because he is taller, giving more assured ensignes of victory and fortitude: for their strength is admirable, as may be conjectured by that which is formerly recited of their trunk, as *Vartoman* affirmeth, that he saw three Elephants with their only heads, drive a great Ship out of the Sea-water where it was fastened unto the shore. When he is most loaded, he goeth surest, for he can carry a wooden Tower on his back with thirty men therein, and their sufficient food and warlike instruments.

The King of *India* was wont to go to war with 30000 Elephants of war, and beside these he had also followed him 3000 of the chiefeft and strongest in *India*, which at his command would overthrow Trees, Houses, Walls, or any such thing standing against him: and indeed upon these were the *Indians* wont to fight, for the defence of their Coast and Countrey. The farthest region of that continent is called *Partalis*, inhabited by the *Gangarides* and *Calingæ*, the King whereof was wont to have seven hundred Elephants to watch his Army, and there was no mean Prince in all *India* which was not Lord of many Elephants. The King of *Palibotæ* kept in stipend, eight thousand every day, and beyond his Territory was the King of *Modube* and *Molinde*, which had four hundred Elephants. These fight with men, and overthrow all that come within their reach, both with their trunks and teeth.

There were certain officers and guiders of these Elephants, which were called *Elephantarchæ*, who were the governors of sixteen Elephants, and they which did institute and teach them Martial discipline, were called *Elephantagogi*. The Military Elephant did carry four persons on his bare back, one fighting on the right hand, another fighting on the left hand, a third which stood fighting backward from the Elephants head, and a fourth in the middle of these holding the reins and guiding the beast to the discretion of the Souldiers, even as the Pilot in a Ship guideth the stern, wherein was required an equall knowledge and dexterity, for they understand any language quickly; for when the *Indian* which ruled them said, Strike here on the right hand, or else on the left, or refrain and stand still, no reasonable man could yeeld readier obedience. They did fasten by iron chains, first of all upon the Elephant that was to bear ten, fifteen, twenty, or thirty men, on either side two panniers of iron bound underneath their belly, and upon them the like panniers of wood hollow, wherein they place their men at armes, and covered them over with small boards, for the trunk of the Elephant was covered with a mail for defence, and upon that a broad sword, and two cubits long: this (as also the wooden Castle or panniers aforesaid) were fastened first to the neck, and then to the rump of the Elephant. Being thus armed, they entred the battel, and they shewed unto the beast to make them more fierce, wine, red liquor made of Rice, and white cloth, for at the sight of any of these, his courage and rage increaseth above all measure; then at the sound of the Trumpet he beginneth with teeth to strike, tear, beat, spoil, take up into the air, cast down again, stamp upon men under feet, overthrow with his trunk, and make way for his riders to pierce with Spear, Shield, and Sword; so that his horrible voice, his wonderful body, his terrible force, his admirable skill, his ready and inclinable obedience, and his strange and seldom seen shape, produced in a main battel no mean accidents and overturns. For this cause we read how that *Pyrrhus* first of all produced Elephants against the *Romans* in *Lucania*: afterward *Asdrubal* in *Africa*, *Antiochus* in the East, and *Jugurtha* in *Numidia*.

Against this new kinds of Castle-fighting, and Souldier-bearing beasts, on the contrary they invented new kinds of stratagems, as is before set down, and also new instruments of war, for a *Centurion* in *Lucania* with a new devised sharp Sword cut off the trunk of this beast, again other invented, that two armed Horses should draw a Chariot, and in the same armed men with Javelins and sharp Spears, the speedy Horses should with all force run upon the Elephants, and the spear-men directing their course and weapons, some upon the beast, other upon the riders, did not only wound the beast, but also by celerity of the Horses, escape all danger.

Other again sent against him armed Souldiers, having their Armour made full of sharp pricks or piercing piked Nails, so that when the beast did strike at them with his trunk, he received grievous wounds by his own blowes. Again there were certain young men Souldiers, armed with light armour, which being mounted upon swift Horses, could cast Darts with singular facility, and without the reach of the beast, many times wounding him with long Spears, and so by

Ælianus.
Oppianus.
Strabo.

Eustathius.

Vartomannus.
The conditions & courage of male and female.
Gillius.

Albertus.
The strength and burthen of an Elephant.

Pliny.
The keepers & maintainers of Elephants.
Solinus.

Pollux.
The instruction of Elephants for war.
Ælianus.

The fight against Elephants.

example of the Horse-men, the Foot-men, grew more bold, and with piles in the earth annoyed the belly of the beast, and utterly vanquishing it and the rider. Again, they devised slings to cast stones, whereby they beat off the riders, and many times overthrew the Castle-bearer, as it were by some violent stroke of a Cannon shot; neither was there ever any more easie way to disaster these monster-seeming Souldiers, then by casting of stones; and lastly they would suffer their Elephants and their riders by poor hopes and appearances of fear, to enter into the midst among them, and so begirt and inclose them, that they took the Elephants alive; and also more shooters of Darts carryed in Chariots with the strong course of horses, did so annoy them, that whereas their bodies were great and unweildy, not nimble to stir out of place, it became more easie to kill an Elephant then a Horse, because many shooters at one time could pierce so fair a mark with unrefistible weapons. And these things are related by *Vegetius*.

Games of Elephants.

At the last the fight with Elephants turned into a publick game or pastime, both to see them fought withall by men, and also among themselves. When certain prisoners of the *Romans* were taken by *Annibal*, he first constrained them to skirmish among themselves, and so slew one another except only one; and he was by the like commandement forced to fight with an Elephant, but upon condition of liberty if he escaped alive: and thereupon joyned combate, and slew the Elephant, to the great grief and amazement of all the *Carthaginians*; but going home, according to agreement, *Annibal* fearing that by this fact those great beasts would grow into contempt, sent certain Horsemen to kill him by the way.

Fenestella.

Their trunk or hand is most easie to be cut off; for so it happened in the ædility or temple-office of *Claudius*, *Antonius* and *Postumus* being Consuls, and afterward in the *Circus*, when the *Luculli* were the commons officers. And when *Pompey* was Consul the second time, there were 17 or 20 which at one time fought within the *Circus*, at the dedication of the Temple of *Venus the Victoria*, where the *Getulians* fought with them with Spears and Darts; for there happened an admirable accident, one of the Souldiers who having a hurt in his feet did creep upon his knees betwixt the legs of the Elephants, and cast up the Darts over his head into the beasts belly, which fell down round about him, to the great pleasure of the beholders, so that many of the Elephants perished rather by Art then the strength of the Souldier. No lesse was the Miracle of another slain with one stroke, for a pile ran into his temples through his eye, and there stuck so fast, that it could not be pulled forth again; which thing was afterward assayed by *Julius Caesar*, and in the third time of his Consulship, there were twenty Elephants, which in the Games fought with five hundred men, and so many with Towers on their backs, bearing threescore men in every Tower.

To conclude, Elephants are afraid of fire, and *Martial* made this Epigram of a Bull slain by an Elephant, which was wont to domineer in all their triumphant games, wherewithal I will conclude this discourse.

Qui modo per totam flammis stimulus arenam

Sustulerat raptas Taurus in astra pilas,

Occubuit tandem cornuto ardore petitus,

Dum facilem tolli sic Elephanta putat.

The taking of Elephants.

Pliny.

Strabo.

In the next place it is good to relate the story of the taking and taming of Elephants, for in *Lybia* about the *Troglodytae*, the hunting and taking of Elephants have given many names to several Towns, as *Elephantina*, and *Elephantis*, *Epithera*, *Philothera*, and the hunting of Elephants by *Ptolemaeus*, by the Port *Saba*, the City *Daraba*, and *Lyscha*. In *Africk* they take them in great ditches, whereinto when they are fallen, the people presently with boughs, mattocks, leaves, and digging down of high raised places, take them out again, and so turn them into a valley wrought by the labour of man, most firmly walled on both sides, where with famine they tame him; for when he would gently take a bough at the hand of a man, they adjudged him tamed, and grew familiar with him, leading him away without all scruple.

Pliny.

But the *Indians* use a more ingenious and speedy means to tame them, which is this; first, they dig also a great ditch, and place such meat therein as the beast loveth, who winding it, and coming thereunto, for desire thereof falleth into the fosse or ditch: being so fallen in, and not able to come forth again, one cometh to him with Whips, beating him very grievously for a good space, to the great grief of the beast, who through his inclosing can neither run away nor help himself; then cometh another during this time of punishment, and blameth the first man for beating the beast, who departeth presently as one afraid of his rebuke, the other pitieth the beast, and stroaketh him, and so goeth away; then cometh the whipper again, and scourgeth the Elephant as before, and that more grievously to his greater torment for a good space together: whereupon the time fulfilled, the other cometh again and fighteth with the whipper, and forcibly seemeth to drive him away, and relieve the poor beast; and this they do successively three or four times; so at the last, the Elephant groweth to know and love his deliverer, who by that means draweth him out and leadeth him away quietly: While this thing is doing, the smiter and whipper useth a strange and unwonted kind of habit, so as he may never be known by the Elephant after he is tamed, for fear of revenge: of which you shall hear more afterward, in the farther discourse and opening the nature of this beast.

Albertus.

Arrianus

Arrianus and *Strabo* relate another way whereby the *Indians* take their Elephants, which because they write upon their own eye sight, of the things they knew assuredly, I have thought good to expresse the devise; Four or five Hunters first of all chuse out some plain place, without Trees or Hills, but declining, by the space of some four or five furlongs; this they dig like a wide ditch as aforesaid, and with the earth they take up, they raise wals about it like a trench, and in the sides of the trench they make certain dens with holes, to convey in light to the Watch-men, whom they place therein, to give notice and observe when the Elephants are inclosed; then make they a narrow bridge covered with earth at the farther end of the trench, that the beasts may dread no fallacy; and for the more speedy effecting and compassing their desire, they also include in the trench three or four tame female Elephants, to entise and draw into them the wilde ones.

Now these beasts in the day time feed not so boldly as in the night, and therefore they can not easily be deceived or taken in the light; but in the night great flocks of them follow the Captain (as we have already shewed) and so coming neer this trench, partly by the voice, and partly by the favour and smell of the females, they are drawn into the trench; then the Watch-men with all speed, pull down the bridge, and other of them go into the next Townes to call for help, who upon the first notice thereof, come to the place mounted upon the best and strongest tame Elephants, and so compass them about, giving meat in their presence to the tame, but besieging the inclosed, they keep them from all meat and food, until they be so weakned that they dare enter in among them, but in this manner, they turn in their tame Elephants, and go under their bellies, and so when they come near the wilde Elephants, they speedily convey themselves under his belly, and lay unavoidable fetters upon their feet: then provoke they the tame ones to beat and fight with the wilde, who by reason of the manacles upon their feet are easily overthrown and fall to the ground; being on the ground, they put halters upon their necks made of raw Oxe hides, and so bind them to the tame and domestical Elephants: And while they lie on the ground, they get upon them, and to the intent that their Riders may be without danger of harm by them, they cut the skin of their necks round about in a circle, with a sharp sword, and upon the wound they tie and fasten a rope, that so the pain may constrain the beast to be quiet, so that by this they begin to feel their own weakness, and leave off their wildeness, betaking themselves to the mercy of their new Masters.

But thus raised from the earth again, and yoked by the necks and legs to the tamed Elephants, they are safely led home into stables, where they are fastened to great pillars by their necks, and if they refuse to eat their meat, with Tymbrels, Cymbals, Harpes, and other musical instruments, they are so entised from sullen wildeness, that they forget their first natures, and yeeld all loving obedience to men, as to their victorious conquerors and unresistible Masters.

These beasts by their sagacity and natural instinct, do sometime foresee their own peril, and discover the trains and secret intentions of the Hunters, so as they cannot be drawn into the ditches and fosses by any allurements; but presaging their own misfortunes, turn back again upon their Hunters, even through the midst of them, and so seek to save themselves by flight, overthrowing their enemies that dare approach unto them. At which time there is a fierce fight, to the great slaughter many times both of men and beasts; for the men to stay his flight, bend their spears, and charge their darts and arrowes, to strike the Elephant directly on the face, and if the beast perceive that he hath overthrown any man, instantly he maketh to him, taketh him in his teeth, lifting him up into the air, and casting him down again, stampeth upon him, wounding him many times with his teeth or horns, whereby he putteth him to cruel torments, and leaveth him not till he be dead.

Eliaus.

And when they invade or set upon a man, they spread forth their broad ears, (which are fashioned like the winges of Ostriches) as the sails of a ship, and drawing up their trunk under their teeth their noses stand forth like the beak of some ship, and so rush they with unresistible violence upon the weak bodies of men, overturning them in no other sort, then a mighty great Hulk or man of war, the little Oares or Whirries in the Sea.

And as the Trumpets in war give the signes of fighting, so do these send forth such terrible yelling and roaring clamors, as bringeth no mean astonishment to his persecutors: beside the lamentable and mournful voices of men, by them wounded and fallen to the earth; some having their knees and bones broken, other their eyes trod out of their head, other their noses pressed flat to their faces, and their whole visages so disfigured and disfavoured in a moment, that their neereft friends, kindred and acquaintance cannot know them. These also fill the spacious air with direful cries, that are heard a great way off, into the Towns and Cities adjoyning, having no other means to escape out of the way, and from the teeth of the beast, except he strike his tooth into some root and there it stick fast untill the poor overthrown man can creep aside and save himself by flight.

In this conflict, sometime the Elephants, and sometimes men are the conquerors, by bringing upon the beasts divers terrors and manacles, out of which they are not very easily delivered: for men also have their trumpets, and so make the woods and fields ring with them, the ratling of their Armour and Shields, and their own howling and whooping, kindling fires on the earth, casting both fire brands and burning Torches into the face of the Elephant, by all which the huge

beast is not a little disgraced and terrified. So that being bereft of their wits, they turn back and run into the ditch which they so carefully avoided before.

But if their rage proceed undeterred, and men be forced to yeeld unto them, forth they go into the woods, making the trees to bend unto them as a Dog or an Ox doth the standing corn at harvest: breaking off their tops and branches, which hinder their course and flight, as another beast would crop off the ears of corn; but where they are taller then the woods, there they strain every joynt and member in them to get ground and overgo their Hunters; which they may perform and attain more easily, because of their customary aboad in those places: and when they are escaped out of the sight of their followers, and make account that they are freed from further persecution, then cast they off all fear, and compound their distracted senses into a remembrance of meat, and so gather their food from Palms, Trees or bushes; afterward betaking themselves to rest and quietness.

But if their Hunters come again into their sight, they also again take them to their heels, untill they have gotten more ground from them, and then they rest again; and if the Sun decline, and light of day fail the Hunters, and darkness make an end of the chase; then do they compass in the beasts way, and set the wood a fire, (for Elephants fear fire as much as Lions:) So that by all this it appeareth, that the fabulous tales of *Gabinus* the Roman writer of Elephants, are not to be believed, when he affirmeth, that Elephants will fight against and resist the violence of fire.

The *Troglodyte* hunt and take Elephants after another manner, for they climbe up into the trees, and there sit till the flocks of Elephants passe by, and upon the last, the Watch-man suddenly leapeth (with great courage) taking hold upon his tail and so sliding down to his legs, and with a sharp Axe which he hath hanging at his back cutteth the nerves and sinews of his legs with so great celerity, that the beast cannot turn about to relieve it self, before she be wounded and made unable to revenge her harm, or prevent her taking: and sometimes she falleth down on the wounded side, and crusheth the Hunter watch-man to death, or else with her force in running, dasheth out his brains against a tree.

Pliny.

Strabo.
Other wayes
of taking Ele-
phants.

The Elephant-eaters (called *Elephantophagi*) do observe the like policy, for by stealth and secretly they set upon the hindmost, or else the wandering solitary Elephant, and cut his sinews, which causeth the beast to fall down, whom presently they behead, and afterward they eat the hinder parts of this beast so cast down and taken.

Other among the aforesaid *Troglodyte*, use a more easie, cunning and lesse perillous kinde of taking Elephants; for they set on the ground very strong charged bent-bowes, which are kept by many of their strongest young men, and so when the flocks of Elephants passe by, they shoot their sharp arrowes dipped in the gall of Serpents, and wound some one of them, and follow him by the bloud, untill he be unable to make resistance. There are three at every bow, two which hold it, and one that draweth the string. Other again, watch the trees whereunto the beast leaneth when he sleepeth, neer some waters, and the same they cut half asunder, whereunto when he declineth his body, the tree is overturned and the beast also, and being unable to rise again because of the short nerves and no flexions in his legs, there he lyeth till the Watch man come and cut off his head.

Aristotle describeth another manner of taking Elephants in this sort; The Hunter (saith he) getteth up upon a tamed Elephant, and followeth the wilde one till he have overtaken it, then commandeth he the tame beast to strike the other, and so continueth chasing and beating him, till he have wearyed him and broken his untameable nature. Then doth the rider leap upon the wearyed and tyred Elephant, and with a sharp pointed Sickle doth govern him after the tame one, and so in short space he groweth gentle. And some of them when the rider alighteth from their backs, grow wilde and fierce again; for which cause they binde their forelegs with strong bands, and by this means they take both great and small, old and young ones; but as the old ones are more wilde and obstinate, and so difficult to be taken, so the younger keep so much with the elder, that a like impossibility or difficulty interposeth it self from apprehending them.

Gillius.

In the *Caspian* lake, there are certain fishes (called *Oxyrinchi*) out of whom is made such a firme glew, that it will not be dissolved in ten dayes after it hath taken hold; for which cause they use it in the taking of Elephants.

There are in the Island *Zeira* many Elephants, whom they take on this manner: In the Mountains they make certain cloysters in the earth, having two great trees standing at the mouth of the cloysters, and in those trees they hang up a great par-cullis gate, within that cloyster they place a tame female Elephant at the time of their usual copulation: the wilde Elephants do speedily wind her, and make to her, and so at the last having found the way betwixt the two trees, enter into her; sometime twenty, and sometime thirty at a time: then are there two men in the said trees, which cut the rope whereby the gate hangeth, so it falleth down and includeth the Elephants, where they suffer them alone for six or seven dayes without meat, whereby they are so infeeble and famished, that they are not able to stand upon their legs.

Then two or three strong men enter in among them, and with great staves and clubs, belabour and cudgel them, till by that means they grow tame, and gentle; and although an Elephant be a monstrous great beast and very subtil, yet by these and such like means do the inhabitants of *India* and *Ethiopia*, take many of them with a very small labour to their great advantage.

Against

Against these sleights of men, may be posed the subtil and cautelous evasions of the beast, avoiding all the footsteps of men, if they smell them upon any herb or leaf, and for their fight with the Hunters, they observe this order. First of all, they set them foremost which have the least teeth, that so they may not be afraid of combat, and when they are weary, by breaking down of trees they escape and flie away. But for their hunting, they know that they are not hunted in *India* for no other cause, then for their teeth, and therefore to discourage the Hunters, they set them which have the worst teeth before, and reserve the strongest for the second encounter: for their wisdom or natural discretion is herein to be admired, that they will so dispose themselves in all their battails when they are in chase, that ever they fight by course, and inclose the youngest from perill, so that lying under the belly of their Dams they can scarce be seen: and when one of them flyeth they all flie away, to their usual resting places, striving which of them shall go foremost: And if at any time they come to a wide and deep Ditch, which they cannot passe over without a bridge, then one of them descendeth, and goeth down into the Ditch, and standeth transverse or crosse the same, by his great body filling up the empty parts, and the residue passe over upon his back as upon a bridge.

Afterward when they are all over, they tarry and help their fellow out of the Ditch or Trench again, by this sleight or devise, one of them putteth down to him his leg, and the other in the Ditch windeth his trunk about the same, the residue standers by cast in bundles of sprigs with their mouthes, which the Elephant warily and speedily putteth under his feet, and so raiseth himself out of the Trench again, and departeth with his fellows.

But if they fall in and cannot finde any help or means to come forth, they lay aside their natural wilde disposition, and are contented to take meat and drink at the hands of men, whose presence before they abhorred; and being delivered they think no more upon their former condition, but in forgetfulness thereof, remain obedient to their deliverers.

Being thus taken, as it hath been said, it is also expedient to expresse by what art and means they are cicurattd and tamed. First of all therefore when they are taken, they are fastened to some Tree or Pillar in the earth, so as they can neither kick backward nor leap forward, and there hunger, thirst, and famine, like two most strong and forcible Riders abate their natural wildeness, strength, fear and hatred of men: Afterward when their keepers perceive by their dejection of minde, that they begin to be mollified and altered, then they give unto them meat out of their hands, upon whom the beast doth cast a far more favorable and cheerful eye, considering their own bondage, and so at the last necessity frameth them unto a contented and tractable course and inclination.

But the *Indians* by great labour and industry take their young Calves at their watering places, and so lead them away, inticing them by many allurements of meat to love and obey them, so as they grow to understand the *Indian* language, but the elder *Indian* Elephants do very hardly and seldom grow tame, because of their remembrance of their former liberty, by any bands and oppression; nevertheless by instrumental musick, joyned with some of their Countrey songs and ditties, they abate their fierceness, and bring down their high untractable stomachs, so as without all bands they remain quiet, peaceable and obedient, taking their meat which is layed before them.

Pliny and *Solinus* prescribe the juyce of Barly to be given to them for their mitigation, whereunto also agreeth *Dioscorides* (calling that kind of drink *Zybu*) and the reason hereof is, because of the tart sharpness in Barly water if it stand a little while; and therefore also they prescribe Vinegar and ashes to rub the beasts mouth, for it hath power in it to pierce stones, all sharp things penetrate deep into his flesh, and alter his nature; the invention whereof is attributed to *Demoeritus*.

Being thus tamed, they grow into civill and familiar uses, for *Cesar* ascended into the *Capitol* betwixt four hundred Elephants, carrying at either side burning Torches, and *Helioabalus* brought four Waggon drawn with Elephants in *Vaticanum*, and men commonly ride upon them, for *Apollonius* saw near the River *Indus*, a Boy of thirteen year old riding alone upon an Elephant, spurring and pricking him as freely as any man will do a lean horse.

They are taught to bend one of their hinder legs to take up the Rider, who also must receive help from some other present standers by, or else it is impossible to mount on the back of so high a Palfrey. They which are not accustomed to ride upon these beasts, are affected with vomiting and casting, like men when they first of all take the Sea. They are ruled without bridle or reins, only by a long crooked piece of wood bending like a Sickle, and nailed with sharp nails, no man can sit more safely and more softly upon a Horse or Mule then they do which ride upon the Elephants. The *Indians* with their lesser Elephants (which they call bastard Elephants) plow their ground and corn.

The common price of Elephants is at the least five hundred Nobles, and sometimes two thousand. The *Indian* women are most chaste and continent, yet for an Elephant they take a great pride to be hired for whores, for they imagine that the same and received opinion of their beauty doth countervail and cover the shameful losse of their honesty (as *Arrianus* writeth in his book of *Indians*.)

Since the time that Elephants have been tamed, their natures and dispositions have been the better observed and discovered; for they willingly obey their keepers, learning all feats of Armes, to

The subtilty of Elephants against their hunters.

Ælianus.
Tzetzes.
Plutarch.

The art of taming Elephants.
Ælianus.

Plutarch.

Philostartus.

The taking up of their riders.
Vartomannus.
Gillius.

Nearchus.
Strabo.
Elephants for the plow.

The price of Elephants.

Their obedience and tractable gentleness.

take up stones and cast them, and to swim; so that *Strabo* affirmeth, there was no possession or wealth comparable to a Chariot or Waggon of Elephants.

Pliny.
Their learning
in letters.

Mutianus which was thrice Consul, affirmed to *Pliny*, that he saw an Elephant which learned the Greek letters, and was able with his tongue to write these words, *Antos ego Tadegrapsa laphura te kelt' anelbeca*; that is, I wrote these things and dedicated the Celtic spoils: but in these actions of writing, the hand of the teacher must be also present to teach him how to frame the letters, and then, as *Ælianus* saith, they will write upon Tables, and follow the true proportion of the Characters expressed before their face, whereupon they look as attentively as any *Grammarians*. In India they are taught many sports, as to Dance and leap, which caused *Martial* to write thus;

*Turpes effeda quod trahunt bisontes,
Et molles dare jussa quod choreas
Nigro bellua nil legat magistro,
Quis spectacula non putet deorum?*

When the Prizes of *Germanicus Caesar* were played, there were many Elephants which acted strange feats or parts, four of them went upon Ropes and over the Tables of meat, whereon they set their feet so warily that they never touched any of the ghefts, the boardes or standing cups being fully furnished. And also they learned to dance after Pipes by measure, sometime dancing softly, and sometime apace, and then again leaping upright, according to the number sung or played upon the instrument; and they are apt to learn, remember, meditate, and conceive such things as a man can hardly perform.

Their industrious care to perform the things they are taught, appeareth herein, because when they are secret and alone by themselves, they will practise leaping, dancing, and other strange feats, which they could not learn suddenly in the presence of their Masters: as *Pliny* affirmeth for certain truth of an Elephant which was dull and hard of understanding, his keeper found him in the night practising those things which he had taught him with many stripes the day before, and could not prevail by reason of the beasts slow conceit.

Plutarch.

There was an Elephant playing upon a Cymbal, and others of his fellows dancing about him, for there was fastened to either of both of his forelegs one Cymbal, and another hanged to his trunk, the beast would observe just time, and strike upon one, and then the other, to the admiration of all the beholders. There was a certain banquet prepared for Elephants upon a low bed in a parlour set with divers dishes and pots of Wine, whereinto were admitted twelve, six males, apparelled like men, and six females apparelled like women: when they saw it, they sat down with great modesty, taking here and there like discreet temperate ghefts, neither ravening upon one dish or other, and when they should drink, they took the cup receiving in the liquor very mannerly, and for sport and festivity would through their trunks squirt or cast a little of their drink upon their attendants; so that this beast is not only of an admirable greatness, but of a more wonderful meekness and docibility.

Ælianus.

Aristotle.
The reverence
of Elephants
to Kings.

They are said to discern betwixt Kings and common persons, for they adore and bend unto them, pointing to their Crowns, which caused *Martial* to write this *Tetrastichon*;

*Quod pius & supplex Elephas te Caesar odorat,
Hic modo qui tauro tam metuendus erat,
Non facit hoc jussus, nulloque docente magistro:
Credere mihi, numen sentit & ille tuum.*

Three kinds
of Elephants.

The King of *Indians* was watched with four and twenty Elephants, who were taught to forbear sleep, and to come in their turns at certain hours, and so were they most faithful, careful and invincible. And as there be of them three kinds, the *Palustrians* or Marishie Elephants are hair-brained and inconstant, the Elephants of the Mountains are subtil and evill natured, lying in wait to destroy and devoure, but the *Campestral* Elephants are meek, gentle, docible, and apt to imitate men. In these is the understanding of their Countrey language, of obedience to Princes, government, and offices; the love and pleasure of glory and praise: and also that which is not alway in men; namely, equity, wisdom, and probity.

The religion
of Elephants.

They have also a kind of Religion, for they worship, reverence, and observe the course of the Sun, Moon, and Stars; for when the Moon shineth, they go to the Waters wherein she is apparent; and when the Sun ariseth, they salute and reverence his face: and it is observed in *Ethiopia*, that

Pliny.

Solinus.

Ælianus.

when the Moon is changed untill her prime and appearance, these beasts by a secret motion of nature, take boughs from off the trees they feed upon, and first of all lift them up to heaven, and then look upon the Moon, which they do many times together, as it were in supplication to her. In like manner they reverence the Sun rising, holding up their trunk or hand to heaven, in congratulation of her rising.

Elephants sacrificed;
and what followed
thereupon.

Iuba was wont to say, that this beast was acceptable to those Gods which ruled Sea and Land, because of their reverence to Sun and Moon, and therefore *Ptolemy Philopator*, offered four Elephants in a sacrifice (to recover the quietness of his minde) thinking that the Gods would have been

been well pleased therewith, but finding that his fearful dreams and visions departed not from him, but rather his disquietness increased, fearing that the gods were angry with him for that action, he made four Elephants of Brass, and dedicated them to the Sun, that so by this deed he might purchase pardon for the former offence.

*Ælianus.
Plutarch.*

This Religion of theirs, also appeareth before their death, for when they feel any mortal wounds, or other natural signes of their later end, either they take up the dust, or else some green herb, and lift it up to Heaven in token of their innocency and imploration of their own weakness: and in like manner do they when they eat any herb by natural instinct to cure their diseases: first they lift it up to the Heavens (as it were to pray for a divine blessing upon it) and then devour it.

*Tzetzes.
Punius.
Ælianus.*

I cannot omit their care, to bury and cover the dead carcases of their companions, or any other of their kinde; for finding them dead, they pass not by them till they have lamented their common misery, by casting dust and earth on them, and also green boughs, in token of sacrifice, holding it execrable to do otherwise: and they know by a natural instinct some assured fore-tokens of their own death. Besides when they wax old and unfit to gather their own meat, or fight for themselves, the younger of them feed, nourish, and defend them, yea they raise them out of Ditches and Trenches into which they are fallen, exempting them from all labour and perill, and interposing their own bodies for their protection: neither do they forsake them in sickness, or in their wounds, but stand to them, pulling out Darts of their bodies, and helping both like skilful Chirurgeons to cure wounds, and also like faithful friends to supply their wants.

Tzetzes.

Again, how much they love their young, which is a natural part, of religion we have shewed before. *Antipater* supposeth that they have a kinde of divination or divine understanding of law and equity, for when King *Bocchus* had condemned thirty men to be torn and trod in pieces by Elephants, and tying them hand and foot to blocks or pieces of wood, cast them among thirty Elephants; his servants and Officers could not by all their wit, skill, or provocation, make the Beasts touch one of them: so that it was apparent, they scorned and disdained to serve any mans cruel disposition, or to be the ministers of tyranny and murder. They moreover have not only an observation of chastity among themselves, but also are revengers of whoredom and adulterers in other, as may appear by these examples in History.

Plinyus.

Their understanding of justice and equity.

Ælianus.

A certain Elephant seeing his Master absent, and another man in bed with his Mistress, he went unto the bed and slew them both. The like was done at *Rome*, where the Elephant having slain both the adulterer and adulteress, he covered them with the bed-clothes, untill his Keeper returned home, and then by signes drew him into his lodging place, where he uncovered the Adulterers, and shewed him his bloody tooth that took revenge upon them both for such a villany: whereat the Master wondering, was the more pacified, because of the manifest-committed iniquity. And not only thus deal they against the woman, but they also spare not to revenge the adultery of men; yea of their own Keeper: for there was a rich man which had married a wife not very amiable or lovely, but like himself for wealth, riches, and possessions, which he having gained; first of all set his heart to love another, more fitting his lustful fancy, and being desirous to marry her, strangled his rich ill-favoured Wife, and buried her not far from the Elephants stable, and so married with the other, and brought her home to his house: the Elephant abhorring such detestable murder, brought the new-married Wife to the place where the other was buried; and with his teeth digged up the ground and shewed her the naked body of her predecessor, intimating thereby unto her secretly, how unworthily she had married with a man, murderer of his former wife.

The revenge of adulteries by Elephants.

Their love and concord with all mankind is most notorious, especially to their Keepers and Women: for if through wrath they be incensed against their Keepers, they kill them; and afterward by way of repentance, they consume themselves with mourning. And for the manifesting of this point *Arrianus* telleth a notable story of an *Indian*, who had brought up from a foal a white Elephant, both loving it, and being beloved of it again, he was thereupon carryed with great admiration. The King hearing of this white Elephant, sent unto the man for it, requiring it to be given to him for a present, whereat the man was much grieved, that another man should possess that which he had so tenderly educated and loved, fitting him to his bow and purposes, and therefore like a rival in his Elephants love, resolved to deny the King, and to shift for himself in some other place: whereupon he fled into a Desert region with his Elephant, and the King understanding thereof, grew offended with him, sent messengers after him to take away the Elephant, and withal to bring the man back again, to receive punishment for his contempt.

Their love to their keepers and all men that harm them not.

When they came to the place where he remained, and began to take order for their apprehension, the man ascended into a steep place, and there kept the Kings messengers off from him by casting of stones, and so also did the Beast, like as one that had received some injury by them, at last, they got neer the *Indian*, and cast him down, but the Elephant made upon them, killing some of them, and defending his Master and nourisher, put the residue to flight, and then taking up his Master with his trunk, carryed him safe into his lodging, which thing is worthy to be remembered, as a noble understanding part both of a loving friend and faithful servant.

The like may be said of the Elephant of *Porus*, carrying his wounded Master the King in the battel he fought with *Alexander*, for the Beast drew the Darts gently out of his Masters body without all pain, and did not cast him untill he perceived him to be dead, and without blood and breath, and then did first of all bend his own body as near the earth as he could, that if his Master had any life left

Their love to
their Keepers
and all men
that harm
them not.

Their love of
beautiful wo-
men.

Plutarch.

Their revenge
of harms and
observation of
the measure of
their meat.

Strabo.

Gillius.

Gillius.
Philostratus.
Their mourn-
ing in secret.
Aristotle.
The length of
their life.
Arrianus.
Ælianus.

Of the eating
Elephants.
Strabo.

left in him, he might not receive any harm in his alighting or falling down. Generally, as is already said, they love all men after they be tamed, for if they meet a man erring out of his way, they gently bring him into the right again, yet being wilde are they afraid of the foot-steps of men if they winde their treadings before they see their persons, and when they finde an herb that yeeldeth a suspicion of a mans presence, they smell thereunto one by one; and if all agree in one savour, the last Beast listeth up his voyce and cryeth out for a token and watch-word to make them all fly away.

Cicero affirmeth that they come so near to a mans disposition, that their small Company or Nation seemeth to over-go or equall most men in sense and understanding.

At the sight of a beautiful woman they leave off all rage and grow meek and gentle; and therefore Ælianus saith, that there was an Elephant in Egypt, which was in love with a woman that sold Coralls, the self same woman was wooed by Aristophanes; and therefore it was not likely, that she was chosen of the Elephant without singular admiration of her beauty, wherein Aristophanes might say as never man could; that he had an Elephant for his rivall; and this also did the Elephant manifest unto the man: for on a day in the market, he brought her certain Apples, and put them into her bosom, holding his trunk a great while therein, handling and playing with her breasts. Another likewise loved a Syrian woman, with whose aspect he was suddenly taken, and in admiration of her face stroked the same with his trunk, with testification of farther love: the Woman likewise failed not to frame for the Elephant amorous devices with Beads and Coralls, Silver, and such things as are grateful to these brute Beasts, so she enjoyed his labour and diligence to her great profit, and he her love and kindeness without all offence to his contentment, which caused Horat. to write this verse:

Quid tibi vis mulier nigris dignissima barris?

At last, the woman dyed, whom the Elephant missing, like a lover distracted betwixt love and sorrow fell beside himself and so perished. Neither ought any man to marvel at such a passion in this Beast, who hath such a memory as is attributed unto him, and understanding of his charge and business, as may appear by manifold examples: for Antipater affirmeth that he saw an Elephant that knew again, and took acquaintance of his Master which had nourished him in his youth after many years absence.

When they are hurt by any man, they seldom forget a revenge, and so also they remember on the contrary to recompense all benefits, as it hath been manifested already. They observe things done both in weight and measure, especially in their own meat. Agnon writeth that an Elephant was kept in a great mans house in Syria, having a man appointed to be his Overseer, who did dayly defraud the Beast of his allowance: but on a day as his Master looked on, he brought the whole measure and gave it to him: the Beast seeing the same, and remembring how he had served him in times times past, in the presence of his Master exactly divided the Corn into two parts, and so laid one of them aside: by this fact shewing the fraud of the servant to his Master. The like story is related by Plutarch and Ælianus, of another Elephant, discovering to his Master the falshood and privy theft of an unjust servant.

About Lyche in Africk there are certain springs of water, which if at any time they dry up, by the teeth of Elephants they are opened and recovered again. They are most gentle and meek, never fighting or striking Man or Beast, except they be provoked, and then being angered, they will take up a man in their trunk and cast him into the air like an arrow, so as many times he is dead before he come to the ground. Plutarch affirmeth, that in Rome, a boy pricking the trunk of an Elephant with a goad, the Beast caught him, and lift him up into the air to shoot him away and kill him: but the people and standers by seeing it, made so great a noise and cry thereat, that the Beast set him down again fair and softly without any harm to him at all; as if he thought it sufficient to have put him in fear of such a death.

In the night time they seem to lament with sighs and tears their captivity and bondage, but if any come to that speed, like unto modest persons they refrain suddenly, and are ashamed to be found either murmuring or sorrowing. They live to a long age, even to 200 or 300 years; if sickness or wounds prevent not their life: and some but to a 120 years; they are in their best strength of body at threescore, for then beginneth their youth.

Iuba King of Lybia writeth, that he hath seen tame Elephants which have descended from the Father to the son, (by way of inheritance) many generations: and that Ptolemeus Philadelphus had an Elephant, which continued alive many Ages, and another of Seleucus Nicanor, which remained alive to the last overthrow of all the Antiochi.

The Inhabitants of Taxila in India affirm, that they had an Elephant at the least three hundred and fifty years old, for they said it was the same that fought so faithfully with Alexander for King Porus, for which cause Alexander cald him *Aiox*, and did afterward dedicate him to the Sun, and put certain golden chains about his teeth with this inscription upon them: *Alexander filius Iovis Aiatem Soli*: Alexander the son of Jupiter consecrateth this *Aiox* to the Sun. The like story is related by Iuba, concerning the age of an Elephant, which had the impression of a Tower on his teeth and was taken in Atlas 400 years after the same was engraven.

There are certain people in the world which eat Elephants, and are therefore called of the *Nomades* (Elephantophagi) Elephant-eaters, as is already declared: there are of these which dwell in

Daraba,

Daraba, neer the Wood *Eumenet*, beyond the City *Saba*, where there is a place (called the hunting of Elephants. The *Troglodyte* live also hereupon, the people of *Ajrick* cald *Asachæ*, which live in Mountains, do likewise eat the flesh of Elephants, and the *Adiabari* or *Megabari*. The *Nomades* have Cities running upon Charriots, and the people next under their Territory, cut Elephants in pieces, and both sell and eat them. Pliny.
Solinus.

Some use the hard flesh of the back, and other commend above all the delicates of the world the reins of the Elephants; so that it is a wonder that *Ælianus* would write, that there was nothing in an Elephant good for meat, except the trunk, the lips, and the marrow of his horns, or teeth. The skin of this Beast is exceeding hard, not to be pierced by any dart; whereupon came the Proverb, *Cuicem haud curat Elephas Indicus*, the Indian Elephant careth not for the biting of a Gnat, to signifie a sufficient ability to resist all evil, and that Noble mindes must not revenge small injuries.

It cannot be but in such huge and vast bodies there should also be nourished some diseases, and that many (as *Strabo* saith) wherefore first of all there is no creature in the world less able to endure cold or Winter, for their impatiency of cold bringeth inflammation. Also in Summer, when the same is hottest, they cool one another by casting dirty and filthy water upon each other, or else run into the roughest Woods of greatest shadow. It hath been shewed already, that they devour *Chamæleons*, and thereof perish, except they eat a wilde Olive.

When they suffer inflammation and are bound in the belly, either black Wine, or nothing will cure them. When they drink a Leach they are grievously pained: for their wounds by darts or otherwise, they are cured by Swines-flesh, or Dittany, or by Oyl, or by the flower of the Olive. They fall mad sometime, for which I know no other cure, but to tye them up fast in Iron chains. When they are tyred for want of sleep, they are recovered by rubbing their shoulders with Salt, Oyl and Water. Cows milk warmed and infused into their eyes, cureth all evils in them, and they presently like reasonable men acknowledge the benefit of the medicine.

The medicinal virtues in this Beast are by Authors observed to be these: The blood of an Elephant and the ashes of a Weasel cure the great Leprosie: and the same blood is profitable against all Rhumatick fluxes, and the *Sciatica*. The flesh dried and cold, or heavy fat and cold is abominable: for if it be sod and steeped in Vinegar with Fennel-seed, and given to a Woman with childe, it maketh her presently suffer abortment. But if a man taste thereof salted and steeped with the seed aforesaid, it cureth an old cough. The fat is a good Antidote either by Ointment or Perfume: it cureth also the pain in the head.

The Ivory or tooth is cold and dry in the first degree, and the whole substance thereof corroborateth the heart and helpeth conception; it is often adulterated by Fishes and Dogs bones burnt, and by white Marble. There is a *Spodium* made of Ivory in this manner; Take a pound of Ivory cut into pieces, and put into a raw new earthen pot, covering and glewing the cover with lome round about, and so let it burn till the pot be thoroughly hardned: afterward take off the pot, and beat your Ivory into small powder, and being so beaten, sift it, then put it into a glass, and pour upon it two pound of distilled Rose-water, and let it dry. Thirdly, beat it unto powder again, and sift it the second time, and put into it again so much Rose-water as at the first, then let it dry, and put thereunto as much Camphire as will ly upon three or four single Groats, and work it all together upon a Marble stone into little Cakes, and so lay them up where the air may not corrupt and alter them. The vertue hereof is very pretious against spitting of blood, and the Bloody-flux, and also it is given for refrigeration without danger of binding or attriction.

After a man is delivered from the Lethargy, Pestilence, or sudden forgetfulness, let him be purged and take the powder of Ivory and *Hiera Ruffi*, drunk out of sweet water: This powder with Honey-Attick, taketh away the spots in the face: the same with wilde Mints drunk with water, resisteth and avoideth the Leprosie at the beginning. The powder of Ivory burnt and drunk with Goats-bloud, doth wonderfully cure all the pains, and expell the little stones in the reins and bladder: Combes made of Ivory are most wholesome, the touching of the trunk cureth the Headach: The Liver is profitable against the Falling-evill, the same vertue hath the gall (if he have any) against the Falling-evill.

The fime by anointing, cureth a lowsie skin, and taketh away that power which breedeth these vermine: the same perfumed easeth Agues, helpeth a woman in travail, and driveth Gnats or marsh-flies out of a house.

Of the ELK.

AS the Elephant last handled, could not live in any Countrey of the world, but in the hot Eastern, and Southern Regions; so the Elk on the contrary is most impatient of all heat, and keepeth not but in the Northern and cold Countreys: for *Polonia*, and the Countreys under that Climate will not preserve an Elk alive, as it hath been often tryed by experience: for which cause, they are not found but in the colder Northern Regions; as *Russia*, *Prussia*, *Hungaria*, and *Illyria*, in the Wood *Hereynia*, and among the *Borussian-Scythians*, but most plentiful in *Scandinavia*, (which *Pausanias* calleth the *Celtes*) for all the Ancients called the Kingdoms of *Germany*, and the North, *Celtarum Regiones*, Countreys inhabited by the *Celts*.

Vartomannus.

The diseases of Elephants.
Aristotle.
Ælianus.
Solinus.The medicines in Elephants.
Marcellus.Isidorus.
Rasis.
Albertus.The place of their abode.
Bonarum baro
Balizce.
Countries breeding Elks.

The Figure of the *ELK* with *Horns*.

The name of
this Beast.

An Elk the
same that
Alces.

This Beast is called in Greek, *Alke*; and in Latine, *Alces*, or *Alce*; which was a name of one of *Aege-*
ons Dogs in *Ovid*: the *Turks*, *Valachians*, the *Hungarians*, *Lajur*; the *Illyrians* and *Polonians*, *Los*; in
the singular, and plurally, *Loffie*, for many Elks. *Alberius Magnus* calleth it *Alches* and *Aloy*, and after-
ward *Equicervus*, a Horse-Hart. The *Germans*, *Elch*, *Ellend*, and *Elent*, by a *Metathesis* of *Alke*, or
Alce: and for my part I take it to be the same Beast which *Pliny* calleth *Machlis*, for there is nothing
attributed to an Elk which also doth not belong to *Machlis*.

The *ELK* without *Horns*.

I finde not any unreeconcilable difference among Authors concerning this Beast, except in *Cæsar*, *lib. 6.* of his Commentaries, who by the relation of other, (not by his own sight) writeth that there are Elks in the *Hercynian Wood*, like unto Goats in their spotted skins, who have no horns, nor joints in their legs to bend withall, but sleep by leaning unto trees like Elephants, because when they are down on the ground, they can never rise again. But the truth is, that they are like to Roes or Harts, because Goats have no spotted skins, but Deer have, and there may easily be a slip from *Caprea*, a Roe, to *Capra*, a Goat: and *Cæsar* himself confesseth, that the similitude is in their spotted skins, which are not competible in Goats, but in Roes.

Cæsar's description of an Elk.

And whereas he writeth that they have no Horns, the error of this relator may be this, that either he had only seen a young one before the horns came forth, or else an old one, that had lately lost his horns; and by this I suppose that the authority of *Cæsar* is sufficiently answered, so as we may proceed to the description of this Beast collected out of the ancient Writers, *Pausanias*, *Vaspiscus*, *Cæsar*, and *Solinus*, *Pliny*, and the later Writers consenting with them in all things, (excepting *Cæsar* in the two things aforesaid) *Albertus Magnus*, *Mathæus*, *Michuanus*, *Seb. Munster*, *Erasmus*, *Stella*, *Johannes Bonarus*, Baron of *Balizæe* a *Polonian*, *Johannes Kemmannus*, *Jo. Pontanus*, *Antonius Schnerbergerus*, *Christophorus Wirsungus*, and that most worthy learned man *Georgius Joachimus* of *Rhetia*, and *Baaron Sigismund*.

Pausanias supposeth it to be a Beast betwixt a Hart and a Camel, and *Albertus*, betwixt a Hart and a Horse; who therefore, as it hath been said, calleth it *Equi-cervus*, a Horse-Hart; but I rather by the horns afterward described, and by the foot which *Bonarus* had, do take and hold it to be as big every way as two Harts, and greater then a Horse, because of the labour and qualities attributed thereunto: whereunto also agreeth *Albertus*.

Of the quantity and stature, *Bonarus*.

In *Swedia* and *Riga* they are tamed, and put into Coaches or Charriots to draw men through great snows, and upon the ice in the Winter time they also are most swift, and will run more miles in one day, then a Horse can at three. They were wont to be presents for Princes, because of their singular strength and swiftness; for which cause *Alciatus* relateth in an emblem, the answer of *Alexander* to one that asked him a question about celerity, whether haste doth not alway make waste: which *Alexander* denied by the example of the Elk in these Verses:

The taming of Elks and their labour, *Albertus*.

Alciate gentis insignia sustinet Alce,
Unguis & [meeden] fert [anaballomenos]
Constat Alexandrum sic respondisse roganti,
Qui tot obivisset tempore gesta brevi,
Nunquam inquit differre volens, quod & indicat Alce,
Fortior hæc dubites, ocyor anæ fiet?

Pliny affirmeth (in my opinion) very truly that this Beast is like an Oxe, except in his hair, which is more like to a Hart, his upper lip is so great, and hangeth over the neather so far, that he cannot eat going forward, because it doubleth under his mouth, but as he eateth he goeth backward like a Sea-crab, and so gathereth up the græs that lay under his feet. His mane is divers both upon the top of his neck, and also underneath his throat it buncheth like a beard or curled lock of hair, howbeit, they are alway maned on the top of the neck. Their neck is very short, and doth not answer to the proportion of the residue of his body, and therefore I have expressed both figures of the Elks.

O. his parts and manner of feeding, *Pliny*.

Their fore-head is very broad, two spans at the least: it hath two very large horns, which we have here also expressed, both for the right side and the left: so as they bend toward the back in the plain edge, and the spires or pikes stand forward to the face: both males and females have horns, they are solid at the root, and round, but afterward branched, and grow out of their eye-lids, they are broader then a Harts, and are also very heavy, for they weigh at the least twelve pounds, and are not above two foot long, and the breadth measured from the longest spire to the other opposite side, about ten inches: the root next to the skin, is more then a man can well gripe in his hand, and therefore here is expressed the figure of both horns, both in male and female; for there is not any difference in their natures that I can learn, and these horns they lose every year. His ears and back are very long, and hanging down, the colour for the most part like a Hart, and sometime white; and *Munster* affirmeth, that in the Summer they are of russet colour, and in the Winter brown or blackish coloured. His fore-legs without all joynts to bend, herein resembling an Elephant, and therefore it sleepeth leaning to Posts or Trees, and not lying on the ground. His hoofs are cloven like a Harts, and with the fore-feet he pierceth the Dogs that hunt him, for he fighteth not with his horns, but with his fore-legs. It is a melancholick Beast, and fearful to be seen, having an ambling pace, and keeping in the wet, watry, and marshy places, delighting in nothing but in moisture. The flesh is fat and sweet, but ingrateful to the palate, and engendereth melancholy. The Germans call this Beast *Ellend*, which in their language signifieth miserable or wretched, and in truth if the report thereof be not false, it is in a most miserable and wretched case, for every day throughout the year it hath the Falling-sickness, and continueth in the pangs thereof, untill the hoof of his right fore-foot touch his left ear, which comes not to pass but by the extreame torments of the body, for whilst the members are reached and stretched with many strains and Convulsions (as it falleth out in that sickness)

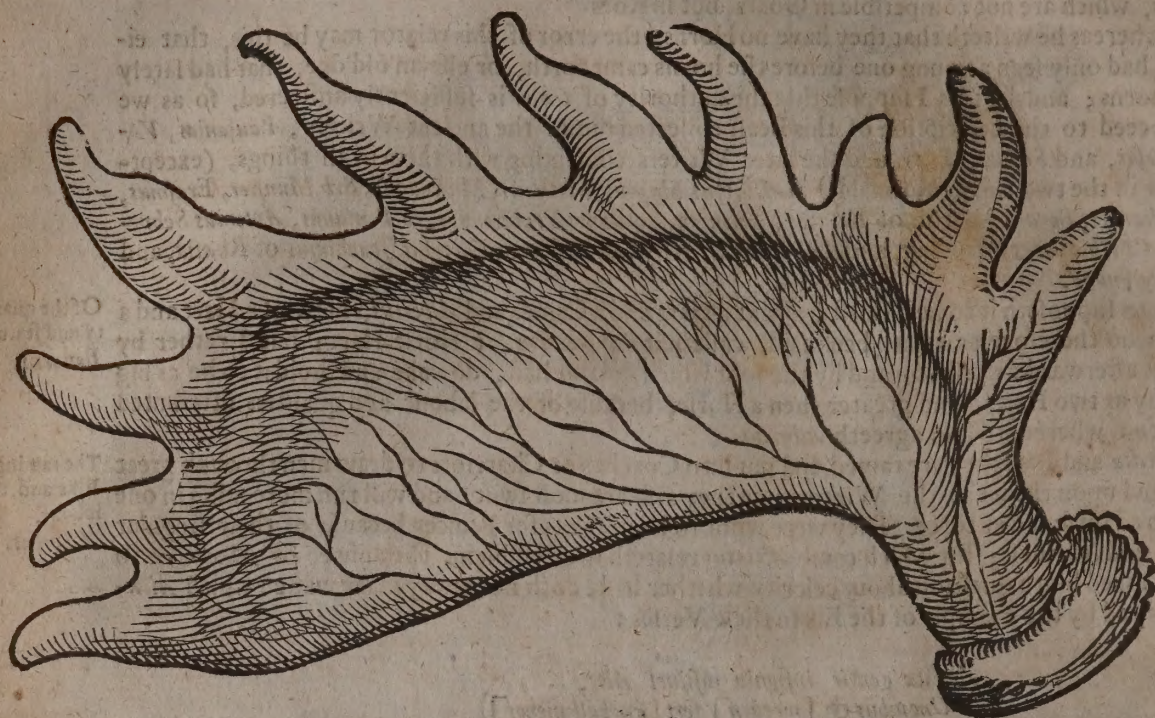
Munster, *Kemmannus*, *Pontanus*.

Sigismundus, *Baro*.

Of the colour, The manner of their fight, The place of his abode, The name of this beast in the German tongue, and the true signification thereof.

The sickness by of Elks.

by chance the aforefaid foot rubbeth the faid ear, and immediately thereupon the Beast is delivered from his pangs: whereby we are to admire the works of our Creator, which having laid fo' heavy an infirmity upon this poor Beast, wherewith he is dayly tormented, yet hath he also provided a remedy for that evill in the hoof of his own foot, making the torments of the disease to be the Apothecary for applying the remedy to the place of cure.



Their fight
with Wolves.

They live in herds and flocks together in *Scandivania*, and when the waters are frozen up, the wilde Mountain Wolves set upon them in great multitudes together, whom they receive in battel upon the Ice, fighting most fiercely and cruelly till one part be vanquished: In the mean time the Husbandmen of the Country observe this combate, & when they see one side go to the wall, they persecute them, & take the victors part, for it is indifferent to take either the one side or the other; but most

most commonly the Elks are conquerers by reason of their fore-feet, for with them they pierce the Wolves or Dogs skins, as with any sharp pointed Spear or Javelin.

Some have been of opinion that these are wilde Asses, but they are led hereinto with no reason, except because they are used for travel and burthen as is before said, for there is no proportion or resemblance of body betwixt them: besides, they have cloven hoofs, for the most part; although *Sigismundus Baro* affirm, that there are some of this kinde which have their hoofs whole and undivided. Being wilde it is a most fearful creature, and rather desireth to ly hid in secret, then to fly, except perlied by Hunters; and there is no danger in hunting of this Beast, except a man come right before him, for on his sides he may safely strike and wound him; but if the Beast fasten his fore-feet on him, he cannot escape without death. Notwithstanding it is a Beast (as hath been said) as great as two Harts, yet is it above measure fearful, and if it receive any small wound, or shot, instantly it falleth down and yeeldeth to death, as *Bonarus* hunting with *Sigismund* the second King of *Polonia* in the Woods of *Litwania* tryed with his own hand, for with his hunting Spear he pierced one a very little way in the skin in the presence of the King, who presently fell down dead.

Their manner to hunt them without danger.

Their admirable fear and pusillanimity.

The ancient manner of taking Elks.

In some Countries of ancient time (saith *Pausanias*) they took them on this manner. They having found out the field or hill where the Beasts are lodged, they compass it in by the space of a thousand paces round in circle with welts and toils invented for that purpose, then do they draw in their nets round like a purse, and so inclose the Beasts by multitude, who commonly smelling his Hunters, hideth himself in some deep ditch or cave of the earth; for the nature of this Beast hath framed to it self a most sharp sagacity, or quick sent of smelling, being not herein inferiour to any of the best Dogs in the world, because it can a great way off discover the Hunters, and many times while men are abroad in hunting of other Beasts, this is suddenly started out of her lodging place, and so discovered, chased, and taken.

Other again take it by the same means that they take Elephants, for when they have found the trees whereunto they lean, they so cut and saw them, that when the Beast cometh, he overthroweth them, and falleth down with them, and so is taken alive.

We read that there were Elks in the triumph of *Aurelian* at *Rome*, and in the games dedicated by *Apollo* and *Diana*, and celebrated by *Valerius Publicola*, were many Elephants, Elks, and Tygers. Likewise there were ten Elks at *Rome* under *Gordianus*. When they are chased eagerly, and can finde no place to rest themselves in and lie secret, they run to the waters, and therein stand, taking up water into their mouths, and within short space do so heat it, that being squirted or shot out of them upon the Dogs, the heat thereof so oppresseth and scaldeth them, that they dare not once approach or come nigh her any more.

Vopiscus.

Their resistance in the waters.

Munster.

The medicine in an Elk.

The greatest vertue of medicine that I can learn or finde to be in this Beast, is in the hoof, for that worn in a Ring, it resisteth and freeth a man from the Falling evill, the Cramp, and cureth the fits or pangs, if it be put on when he is in his foming extremity: also scraped into powder and put into Wine and drunk, it is used in *Polonia* against the same evill. In like sort they mingle with Triacle, and apply it to the heart, or else hang it about their neck for an Amulet to touch their skin against that disease: and because that both in ancient time, and also now adays, this Beast is seldom seen, and more seldom taken, the hoof thereof being so often approved for the uses before said, the rarity (I say thereof) maketh it to be sold very dear, which would be (if they could be found or taken) in more plentiful manner.

Some Mounte-banks sell in stead thereof a Bugles hoof, but it may easily be described by scraping, for (it is said) it smelleth very sweet, whereas a Bugles savoureth very ill and strong. It is observed also, that it hath not this vertue except it be cut off from the Beast while he is yet alive, and that in the months of *August* and *September*, at what time these Elks are most of all annoyed with the Falling-sickness, and then it hath strongest vertue to cure it in others.

Others affirm, it wanteth his operation if it be cut off from a young one, which never tasted of carnal copulation, and so hath not been dulled thereby: but howsoever, this is certain, that sometimes it cureth, and sometime it faileth, and as there can be given no good reason of the cure, so I rather ascribe it to a superstitious conceit or belief of the party that weareth it, rather then to any hidden or assured work of nature. The skins of this Beast are dressed by Tawyers, with the fat of fishes and Alum, to make breast-plates; and to shelter one from rain, and they sell them for three or four Nobles a piece; but in *Cracovia* for fifteen Florens. It may be discerned from a Harts skin by blowing upon it, for the breath will come through like as in a Buffe, and the hairs also of this Beast have also hollow passages in them when they grow upon the back of the Beast, or else soon after the skin is taken off.

The use of their skins.

Some also use the Nerves against the Crampe, binding the offended member therewith, and herewith do we conclude this story of an Elk, referring the reader to the fable of *Acida* related before in *Cacus*, if he have desire to know it for the affinity betwixt the name thereof, and *Alces* an Elk.

A. t. Schnebergerus.

Of the FERRET.

The names in
Greek.

I Take it to be most true without all exception, that the *Græcians* call a Ferret *Gala Agria*, a wilde Weasill, *Itys* and *Pheretikes*, although *Etymologus* and *Hesychius* ascribe the reason of this latter name to her lodging under Oaks and Olive-trees. *Itys* also was a common name of all Weasills, to those *Græcians* which never knew or saw any other then one kinde of them, or as *Scaliger* against *Cardan* will have it to signifie a wilde *Campestral* Weasill, and not a tame kinde, being domestical and living in houses, and that these differ only from one another in place and manner of living, and not in colour, stature or qualities. And where *Aristophanes* citeth it among other Beasts which are devourers of fish; in my opinion there is no Beast that more desireth Fish, then Ferrets and Cats; and for this cause it hath his name *Itys quasi Ichthus*, of eating of Fish; and yet I cannot consent unto them which will have it descend and hunt Fish in the waters, like Otters or Beavers: for it abhorreth both swimming or diving, but neer to the waters it hunteth Fish, where for the most part being wilde it remaineth.

The etymology
of *Itys* a Ferret.

Ferrets swim
not.

The Latine
names.

Their courage
and nature in
the earth.
Scaliger.

The *Latines* call this Beast *Viverra*, and *Furo*, and *Furetus*, and *Furectus*, because (as shall be afterward manifested) it preyeth upon Conies in their holes, and liveth upon stealth, and in the earth will kill a Cony six times as big as herself, but being abroad on the land, in the open air is nothing so wilde, strong or full of courage. From *Itys* is derived *Itissus*, and the *German*, *Itis*, for a Ferret: this is called by the *French*, *Furon*, *Furet*, and *Fuson*, and *Fuset*: by the *Spaniards*, *Furon*, and *Furam*, and from the *English*, *Ferret*, is the *German Fret*, derived by a common *Syncope*, and in the time of *Georgius Agricola*, it was called in *Germany*, *Furette*, and *Frettel*; and the *English* word seemeth also to be derived from *Fretta* in *Latine*, which by a like *Syncope* is contracted of *Viverra*, as to any indifferent learned man it may appear at the first sight of derivation.

Whether Ferrets
be *Itys*.

But herein seemeth an unreconcilable difference, that it is reported of the *Itys* by *Gaza*, the interpreter of *Aristotle*, that it was most greedy of Honey, and for that cause it will seek out the Hives of Bees, and enter them without all fear of stings. But when *Pliny* speaketh of *Itys*, he doth not call it *Viverra*, or once attribute unto it the love of Honey, but rather the hatred and loathing thereof, in so high a degree, that if he tast of it, he falleth into Consumptions, and hardly escapeth death. And these things *Scaliger* alleadgeth against *Cardan*, only to prove that *Itys* and *Viverra*, are two distinct Beasts, and that *Cardan* was mistaken in affirming, that they were but several names, expressing one and the same Beast.



The answer whereunto may be very easie, for although *Pliny* leaveth without rehearsal their love of Hony, it doth not necessarily follow, that they love it not (as *Aristotle* before him constantly affirmeth) and *Scaliger* nameth no Author, nor bringeth any reason to demonstrate their hate of Hony, or any harm which insueth them by eating thereof: and therefore against his authority may *Strabo* be opposed, who in his third Book, speaking of the Conies of *Spain*, and of their Hunters and starters, out of their holes, he taketh and nameth indifferently without all distinction and exception, *Viverra*, and *Iæys*, for the one and other. *Niphus* translateth *Iæys*, a Martel, but without reason; for the same man finding in *Aristotle*, that there is war betwixt Locusts and Serpents, which is fitly called *Ophiomachia*; whereas *Aristotle* nameth *Akris*, a Locust, he falleth in doubt whether it were not better to be *Iæys*, a Martel, or as other copies have it *Apis*, an Aspe, which can by no means agree unto them, for there is a kinde of Locusts (called *Ophiomachum*) because of their continual combates with Serpents. And therefore not to stand any longer upon this difference, omitting also the conjecture of *Tzetzes*, which confoundeth *Iæys* with *Milvus*, a Glead or Kyte, which cannot stand reasonable, because *Homer* saith, there was a kinde of Caps made of the hairs of *Iæys*, nor yet of *Albertus* his new found name of *Ankatinus*, nor *Lucenna* his *Katyz*, or the *French*, *Fissau*, which is a Poul-Cat.

I will descend to the description of the parts and qualities, wherein the Authors themselves at variance, make their own reconciliation, by attributing the same things to the *Iæys*, and Ferret, except that of an obscure Author, which saith that *Iæys* is *Ankacnor*, as big as a Gray-hound, and that it is wiser and more industrious in his youth and tender age, then in his perfection of strength and years.

These Ferrets are lesser then the *Melitean* or Gentlewomens Dogs, and they were first of all brought out of *Africk* into *Spain*, and therefore are called by *Strabo*, *African* Weasils, because of their similitude with Weasils: for *Spain*, *Italy*, *France*, and *Germany*, have not this Beast bred among them, but brought to them out of other Countries. But in *England* they breed naturally of the quantity aforesaid, and they are tamed to hunt Conies out of the earth. It is a bold and audacious Beast, enemy to all other, except his own kinde, drinking and sucking in the blood of the Beast it bitech, but eateth not the flesh. When the Warrener setteth it down to hunt, he first of all maketh a great noise to fray all the Conies that are abroad into their holes, and so having frightened them, pitcheth his Nets, and then putteth his tame Ferret into the earth, having a long string or cord with Bels about her neck, whose mouth he muzzleth, that so it may not bite the Cony, but only terrifie her out of her borough and earth with her presence or claws; which being performed, she is by Dogs chased into the nets, and there overwhelmed, as is aforesaid in the history of the Conies.

Their body is longer for the proportion then their quantity may afford, for I have seen them two spans long, but very thin and small. Their colour is variable, sometime black, and white on the belly, but most commonly of a yellowish sandy colour, like Hermeline or Wool, dyed in urine. The head little like a Mouses, and therefore into whatsoever hole or chink she putteth it in, all her body will easily follow after. The eyes small, but fiery, like red hot iron, and therefore she seeth most clearly in the dark: Her voyce is a whining cry, neither doth she change it as a Cat: She hath only two teeth in the neather chap, standing out, and not joyned or growing together. The genital of the male is of a bony substance, (wherein *Pliny* and *Scaliger* agree with *Cardan* and *Strabo* for the *Iæys* also) and therefore it alway standeth stiffe, and is not lesser at one time then at other. The pleasure of the sense in copulation is not in the yard or genital part, but in the nerves, muscles, and tunicles wherein the said genital runneth. When they are in copulation, the female lyeth down or bendeth her knees, and continually cryeth like a Cat, either because the Male pincheth and claweth her skin with his sharp nails, or else because of the rigidity of his genital. And when the female desireth copulation, except she be with convenient speed brought to a male, or he suffered to come to her, she swelleth and dyeth. They are very fruitful in procreation, for they bring forth seven or eight at a time, bearing them in their little belly not above forty days. The young ones newly littered are blinde 30 days together, and within forty days after they can see, they may be set to hunting. The Noble men of *France* keep them for this pleasure, who are greatly given to hunt Conies, and they are sold there for a *French* crown. Young boys and scholars also use them to put them into the holes of rocks and walls to hunt out birds, and likewise into hollow trees, where-out they bring the Birds in the claws of their feet.

They are nourished being tamed with Milk, or with Barley bread, and they can fast a very long time. When they go, they contract their long back and make it stand upright in the middle, round like a bowl. When they are touched, they smell like a Martel, and they sleep very much: being wilde, they live upon the blood of Conies, Hens, Chickens, Hares, or other such things, which they can finde and over-master. In their sleep also they dream, which appeareth by whining and crying in their sleep. Whereas a long fly (called a Fryer) flying to the flaming candles in the night, is accounted among poysons, the Antidote and resister thereof is by *Pliny* affirmed to be a Goats gall or liver, mixed with a Ferret, or wilde Weasil, and the gall of Ferrets is held pretious against the poyson of Aspes, although the flesh and teeth of a Ferret be accounted poyson. Likewise the gall of a Ferret is commended against the Falling disease, and not only the gall (saith *Marcellus*) but the whole body, if it be roasted, dressed, and eaten fasting, like a young pig. It is said by *Rafis* and *Albertus*, that if the head of a Wolf be hanged up in a Dove-cote, neither Cat, Ferret, Weasil, Stoat, or other noysome Beast dare to enter therein. These Ferrets are kept in little hutches, in houses,

Gaza.

Their several parts.

Countrey of breed.

Isidorus.

Perotus.

Their drinking of blood.

Agricola.

Their provocation to hunt.

Their colour and eyes.

The number of their young ones.

Their food.

The medicines of Ferrets.

and there fed, where they sleep much: they are of a very hot temperature and constitution, and therefore quickly digest their meat, and being wilde by reason of their fear, they rather seek their meat in the night then in the day time.

Of the *FITCH* or *POUL-CAT*.



Isidorus.

The name and the notation thereof.

The quantity and nature of this Beast.

Stumpfius.
Agicola.

The skins and use of them.

Isidorus.

Their meat and subtilty not to be despyed.

THe difference of a Poul-Cat, from the Wilde-Cat, is because of her strong stinking savour, and therefore is called *Putorius*, of *Putore*, because of his ill smell: for all Weasils being incensed and provoked to wrath, smell strongly, and especially the Poul-Cat; likewise when in the Spring time they endeavour procreation, for which cause among the Germans, when they would express an infamous Whore or Whoremaster, they say they stink like an *Itia*, that is a Fitch or Poul-Cat. The French call this Beast *Putois*, and *Poytois*, as it is to be found in *Carolus Figulus*; the Savoyans, *Poutet*; the Illyrians and Bohemians, *Tchorz*; and the Polonians, *Vit-dra*; and *Sealiger* calleth it in *Latine* (*Catum fuitam*) by another name then *Putorius*. It is greater then an ordinary Weasil, but lesser then the wilde Martel, and yet commonly fatter: the hairs of it are neither smooth and of one length, or of one colour; for the short hairs are somewhat yellowish, and the long ones black, so as one would think that in many places of the body, there were spots of divers colours, but yet about the mouth it is most ordinarily white.

The skin is stiff, harsh, and rugged in handling, and therefore long lasting in Garments, yet because the Beast is alway fat, the savour of it is so rank, that it is not in any great request, and moreover it is said, that it offendeth the head, and procureth ach therein; and therefore it is sold cheaper then a Fox skin, and the fattest is alway the worst of all. The Skinners approve the skins of Fitches and Martels best, which are killed in Winter, because their flesh and lust is much lower, and therefore rendereth a less hurtfull smell then at other times. The tail is not above two hands or palms long, and therefore shorter then is a Martels. In all other parts of the body it equalleth a Martell, or exceedeth very little, having thinner necks, but larger and greater bellies, the tail, legs, and breast, are also of a blacker colour, but the belly and sides more yellow. Some have delivered that the left legs thereof are shorter then the right legs, but this is found untrue by daily experience: They keep in the tops of houses and secret corners, delighting to kill and eat Hens and Chickens, whose craft in devouring his prey is singular; for to the intent that the silly creatures to be devoured may not bewray them to the House-keepers, the first part that they lay hold upon with their mouths is the head of the Hen and Chicken, and by that means stayeth his crying by cropping off the head. Some of these Fitches wander and keep in the Woods, and thereby live upon Birds and Mice, and such things: some again live by the Sea sides in Rocks, and they take Fishes like Beavers and Otters: and some creep into the Caves of hollow trees, where they eat Frogs, and most of all they delight to be near stals of Cattel, Hay-houfes, and houses, where they meet oftentimes with Egges, wherein they delight above all other kindes of meat. And thus much for this Beast.

Of

Of the Fox.



A Fox is called in *Hebrew*, *Schual*; and in *Chaldee*, *Thaal*; and therefore in *Psalm 61*. where the *Hebrew* readeth *Schualim*, there the *Chaldee* translateth it *Thealaia*; the *Arabians* call him *Tba-leb*; and *Auicene* calleth a Fox sometime *Chabel*, and also *Chalobail*; the *Greek* Septuagints, *Alope-kon*, and vulgarly *Aloper*, and *Alopon*; the *Latine*, *Vulper*, and *Vulpecula* of *Voliper*, his tumbling-pace; the *Italians*, *Volpe*; the *French*, *Regnard*, and a little Fox *Regnardeau*; the *Spaniards*, *Rapoja*, of ravening; the *Germans*, *Fuchs*; the *Flemings*, *Vos*; and the *Illyrians*, *Liska*.

The Epithets expressing the nature hereof among Writers, both Poets and others, are these: crafty, wary, deceitful, stinking, strong-smelling, quick-smelling, tayled, warlike or contentious, wicked and rough; the *Gracians* fiery colored, and subtil for slaughter; and therefore Christ called *Herod* a Fox, because he understood how by crafty means he sought to entrap and kill him: and all the

The several names of Foxes in sundry languages.

The Epithets of Foxes.

Ancients

The Coun-
tries breeding
Foxes.
Ælianus.
Munster.

Aristotle.
Albertus.
The colour of
Foxes.
Olaus mag.

Ancients called such kinde of men *Vulpiones*, which every Nation under Heaven doth imitate.

There are store of Foxes in the *Alpine* regions of *Helvetia*, and amongst the *Capians* they abound, so that their multitude maketh them tame, coming into the Cities, and attending upon men like tame Dogs. The Foxes of *Sardinia* are very ravenous, for they kill the strongest Rams and Goats, and also young Calves; and in *Egypt* they are lesser then in *Græcia*, and most commonly all Foxes are of stature like to a shepherds Dog. Their colour is reddish and more white toward the head: In *Muscovia* are both black and white, viz. about the river *Woga*, black and ash-coloured, and in the Province of *Usting* all black, and these are of the smaller sort, which are nourished to make caps of their skins, and are therefore sold at twenty or thirty Florens a skin. In *Spain* they are all white, and their skins are often brought by the Merchants to be sold at *Francford Mart*.

In the Septentrional or Northern Woods, there are black, white, and red Foxes, and such as are cald *Crucigere*, that is Cross-bearing Foxes, for on their backs and orethwart their shoulders there is a black cross, like an Asles: and there are Foxes asperfed over with black spots, and all these are of one and the same malignant and crafty nature: and these (saith *George Fabritius*) are distinguished by their regions or habitations: for it is most commonly seen, that Foxes which keep and breed toward the South and West, are of an ash colour, and like to Wolves, having loose hanging hairs, as is to be seen both in *Spain* and *Italy*; and these are noted by two names among the *Germans*, from the colour of their throat. One kinde of them is called *Koler*, whose throat seemeth to be sprinkled and darkned with cole-duft, upon white, so as the tops of the hair appear black, the foot and stalk being white.

The other *Birkfuchse*, because their throat is all white, and of this kinde the most splendent white, is most pretious. A second there is (called *Kreutzfuchse*) because of the cross it beareth upon his back and shoulders down to his fore-feet, being in other parts like the former, except the throat which is blacker then any of the other before spoken of, and these are not bred in *Germany*, but brought thither from other Nations.

A third kinde is of a bright skie-colour (called *Blauwfuchse*) and this colour hath given a different name to Horses, which they call *Blauwschimmel*, but in the Foxes it is much more mingled, and these Foxes which have rougher and deeper hair are called *Bräufuchse*.

The *Moscovians* and *Tartarians* make most account of the black skins, because their Princes and great Nobles wear them in their garments: yet are they more easily adulterated, and counterfeited by the fume or smoke of Torches made of pitch. The white and blew skins are less esteemed, because the hair falleth off, and are also lesser then the other: the red ones are most plentiful; and *Scaliger* affirmeth that he saw skins brought into *France* by certain Merchants, which had divers white hairs disposed in rows very elegantly upon them, and in divers places they grew also single. In *Norvegia* and *Suetia*, as there are white Hares and Bears, so there are also white Foxes; In *Wolocha* they are black, as it is affirmed by *Sigismundus Liber*, the picture of the Cross-bearing-Fox which is less then the former is here following expressed and set down.

The Crucigeran FOX.

Adamantius.
The parts and
nature of
Foxes.
Aristotle.

Serpents, Apes, and Foxes, and all other dangerous harmful Beasts, have small eyes, but Sheep and Oxen which are simple, very great eyes. The *Germans* when they describe a good Horse, they decipher in him the outward parts of many Beasts, from whom (it seemeth) he partaketh his generosity, and from a Fox they ascribe unto him short ears, a long and bushy tail, an easie and soft treading step, (for these belong to a Fox.) The male Fox hath a hard bony genital, his tail is long and hairy at the end, his temperament and constitution is hot, as appeareth both because of his resemblance or similitude with Dogs and Weasils, and also his rank and strong smelling savour; for being dead, his skin hath power in it of heating, and his fat or oyl after a decoction is of the same force and condition.

The flesh of
Foxes evill to
be eaten.

The greatest occasion of his hunting is the benefit of his skin, for his flesh is in all things like a Dogs, and although *Galen*, *Anesimachus*, and *Silvius* affirm, that in the Autumn or latter part of the year, some men use to eat the flesh of Foxes, (especially being Cubs) that is young, tender, and not smelling: but *Ætius* and *Rasis* affirm, (and that with great reason) that their flesh, and the flesh of Hedg-hogs and Hares, is not agreeable to the nature of man.

The use of
their skins.

But their skin retaineth the qualities of the hot Beast being pulled off, by reason of the long and soft hair growing thereupon; and the skins of Cubs which are preferred before the elder, are of least value, because their hair is apt to fall off, which being thin doth not admit any deep rootings of the hair. The *Thracians* in the time of *Xenophon*, wore Caps of Foxes skins upon their heads and ears, in the coldest and hardest Winters, and from hence it cometh, that in some Authors the covers of mens heads, (commonly called in *Greek*, *Pericephala*) are termed *Alopecea*, or *Alopeeis*: and for this purpose in *Germany* at this day, they slit asunder the skin of Foxes tails, and sow it together again, adding to it a sufficient number till it be framed into a Cap: but the skin of the belly and sides is of more pretious estimation, because it is more soft and smooth, and therefore is sold for twice so much as the other parts,

In the Summer time the skins are little worth, because that then the beasts are troubled with the *Alopecia*; that is, the falling off or looseness of the hair; and therefore then also they are dangerous to be used, because of that disease: men which have the Gowt, shrinking up of the sinews, or other old fluxions of the Rhewme in their legs, can use no better or more wholesome thing then to wear buskins of the skins of Foxes; the *Scythians* make them shooes, and soal them with the backs of Fox and Mice skins, upon which they go. The *Latins* have a proper word for the voice of a Fox, which is, *Gannio Gannire*, to Ganne, and it is also metaphorically applied to men, when by screeching clamors they trouble others; as *Terence* in *Adelpb.* *Quid ille gannit? Quid vult?* And *Plautus* also, *Gannit odiosus omni toti familie*; and for this voice did *Mantuan* write his Verse;

*Alex. ab alex
donatus.*

The voice of
Foxes,

—Pates ululare lupos, gannire sagaces
Vulpeculas—

But yet as *Albertus* and *Constantinus* have truly observed, that in the time of his hunting he will bark like a little Dog, and the Harts are greatly afraid of this ganning of Foxes.



It hath been already shewed in the story of the Badger, how the Fox by laying his excrements in the Badgers den, getteth the same to his own use; for the abode of Foxes in the day time is in the caves and holes in the earth, and come not abroad till the night. These dens have many caves in them, and passages in and out, that when the Terriers shall set upon him in the earth, he may go forth some other way: and forasmuch as the Wolf is an enemy to the Fox, he layeth in the mouth of his den, an Herb (called Sea-onion) which is so contrary to the nature of the Wolf, and he so greatly terrified therewith, that he will never come neer the place where it either groweth or lyeth; the same is affirmed of the Turtle to save her young ones, but I have not read that Wolves will prey upon Turtles, and therefore we reject that as a fable.

Their dens
and caves in
the earth,

Gillius.

Oppianus.

Zoroastres.

Gillius.

When *Aristomanes* was taken by the *Lacedemonians*, and included into a rock or quarrey of stones, *Pliny*. he escaped out of their hands, by digging another passage out of it then where he was put in; saying, that it was a shame for a Man to have lesse wit then a Fox. When they are in their dens, they lie upon their bellies with their hinder legs stretched forth at length, like as a man when he sleepeth on his belly, and therefore it seemeth that their legs are so framed to creep and pierce under the earth and dig out their way after their own pleasure.

The food of
Serpents.

This is such a devouring beast, that it forsaketh nothing fit to be eaten, for it killeth Hares and Conies, and with his breath draweth field Mice out of their holes, like as a Hart draweth out Serpents with his breath, and devoureth them. He devoureth also all kinde of Pullen, they also eat Grapes, Apples, and Pears; whereupon came the proverb in *Plautus*, *Tam facile vinces quam vulpes pyrum comest*; Thou shalt as easily overcome him, as a Fox eateth a Pear: which is applied to any easie or dispatchable business. In *Arabia*, and *Syria Palestina*, they are so ravenous, harmful, and audacious, that in the night by ganning and barking, they invite one another (as it were) by a Watchword, to assemble in great multitudes together, for to prey upon all things, and they fear not to carry into their dens, old shooes and vessels, or instruments of husbandry: for which cause, when the Husbandmen hear thereof, they gather all things into their houses and watch them.

The harme of
Foxes.

Dioscorides.

Scrapio.

But as it falleth out in all gluttonous ravening persons, that while they strive to fill their bellies, they poison their lives, so also it fareth with Foxes, for nature hath so ordained, that if a Fox eat any meat wherein are bitter Almonds, they die thereof if they drink not presently: and the same thing do Aloes in their meat work upon them, as *Sealiger* affirmeth upon his own sight or knowledge. *Apocynon* or Bear-foot given to Dogs, Wolves, Foxes, and all other beasts which are littered

littered blind, in fat or any other meat killeth them, if vomit help them not, which falleth out very seldom, and the seeds of this herb have the same operation. It is reported by *Democritus*, that if wilde Rue be secretly hunge under a Hens wing, no Fox will meddle with her; and the same writer also declareth for approved, that if you mingle the gall of a Fox, or a Cat, with their ordinary food, they shall remain free from the dangers of these beasts.

Their carnal
copulation.

When they engender and admit copulation, they are joyned like Dogs, the male upon the female: and the female when she perceiveth her womb filled, she departeth and liveth very secret, for it falleth out very seldom that a female or Bitch-fox is taken great with young. She bringeth forth ordinarily four at a time, and those blind and imperfect, without Articles in their legs, which are perfected and framed by licking, for Bears, Wolves, Lions, Foxes, Dogs, and *Thoes* which are *Multipara* and *Mulifida*, that is, fruitful, bearing many at one time, and also Cloven or slit-footed into many claws, have not the benefit of nature to perfect their young ones in their wombes.

Kites, Vultures, and Eagles lie in wait to destroy the Foxes Cubs or Whelps. Foxes do not only engender with their own kinde, but also with Wolves, Dogs, or any other beasts of equall proportion, both of quantity and time of going with young: so the *Laconian* Dogs are engendered by a Dog and a Fox; and the *Hyæna*, of a Wolf and a Fox (as *Albertus* affirmeth) and the *Simiulpa* of an Ape and a Fox, as is already in the story of Apes declared.

The diseases
of Foxes.

There be also many evils wherewithal Foxes are annoyed, and first of all he falleth sometime into madness as a Dog, and the same evils follow a mad Fox, which already are manifested to accompany a mad Dog, and that more often in Summer then in Winter.

Albertus.
Liber.
Actius.

When a Fox feeleth himself sick, nature hath taught him to eat the gum of Pinetrees, wherewithal he is not only cured, but also receiveth length of dayes. They are also vexed with the falling away of their hair, called therefore *Alopecia*, because Foxes are most commonly vexed therewith, and as we see in Plants, that some of them dry and consume through want of moisture to feed them, other are suffocated and choaked by abundance, and as it were drowned in humidity: so it happeneth in hair, which groweth out of the body of beasts, and the heads of men, no otherwise then Plants out of the earth, and are therefore to be nourished by humours; which if they fail and wax dry, the hair also shorteneth with them, and as it were rotteth away in length: but if they abound and overflow, then do they loosen the roots of the hair, and cause them to fall off totally.

This disease is called *Alopecia*, and the other *Ophiasis*, because it is not general, but only particular in one member or part of the body or head, and there it windeth or indenteth like a Serpents figure.

Michael Ferus affirmeth, that sometime the liver of the Fox inflameth, and then it is not cured but by the Ulcerous blood flowing to the skin, and that evill blood causeth the *Alopecia*, or falling away of the hair, for which cause (as is already said) a Foxes skin is little worth that is taken in the Summer time.

The length of
their life.

The length of the life of a Fox is not certainly known, yet as *Stumpsius* and others affirm, it is longer then the life of a Dog. If the urine of a Fox fall upon the grasse or other herbs, it dryeth and killeth them, and the earth remaineth barren ever afterward. The favour of a Fox is more strong then of any other vulgar beast, he stinketh at nose and tail, for which cause *Martial* calleth it *Olidam Vulpem*, an *Olent* or smelling beast.

Varinus.

Hic olidam clamoribus agens in retia vulpem.

The hunting
and taking of
Foxes.

Touching the hunting or taking of Foxes, I approve the opinion of *Xenophon*, who avoucheth, *Leporum capturam venatico studio quam vulpium digniorem*; that is, the hunting of the Hare is a more noble game or pastime then the hunting of the Fox.

Ælianus.

Oppianus.

Bellefarius.

Textor.

Oppianus.

This beast is more fearful of a Dog then a Hare, for the only barking of Dogs causeth him to rise many times from his den or lodgings out of the earth, or from the middle of bushes, briars, and brambles, wherein he hid himself: and for his hunting this is to be observed, that as in hunting of a Hart it hath been already related, the Hunter must drive the beast with the winde, because it hindereth his refrigeration; so in hunting of a Fox he drive him against the winde, and then he preventeth all his crafty and subtil agitations and devises; for it stayeth his speed in running, and also keepeth his favour fresh alway in the nose of the Dogs that follow him: for the Dogs that kill a Fox must be swift, strong and quick sented, and it is not good to put on a few at once, but a good company together, for be assured the Fox will not lose his own blood till he hazzard some of his enemies, and with his tail which he windeth every way, doth he delude the Hunters: when the Dogs are pressed neer unto him, and are ready to bite him, he striketh his tail betwixt his legs, and with his own urine wetteth the same, and so instantly striketh it into the Dogs mouths, whereof when they have tasted, so many of them as it toucheth will commonly leave off and follow no farther.

Their teeth are exceeding sharp, and therefore they fear not to assault or contend with beasts, exceeding their stature, strength, and quantity. Sometime he leapeth up into a tree, and there standeth to be seen and bayed at by the Dogs and Hunters, like as a Champion in some Fort or Castle, and although fire be cast at him, yet will he not descend down among the Dogs; yea he endureth

endureth to be beaten and pierced with Hunters spears, but at length being compelled to forsake his hold and give over to his enemies, down he leapeth, falling upon the crew of barking Dogs, like a flash of lightning, and where he layeth hold there he never looseth teeth, or asswageth wrath, till other Dogs have torn his limbs, and driven breath out of his body.

If at any time he take the earth, then with Terriar Dogs they ferret him out of his den again. In some places they take upon them to take him with nets, which seldom proveth, because with his teeth he reareth them in pieces; yet by *Calentius* this devise is allowed in this Verse;

Et laqueo Vulpes & decipe cassa fuinar.

But this must be wrought under the earth in the caves, dens, or furrowes, made of purpose, which is to be performed two manner of wayes, one by placing the Gin in some perch of wood, so as that as soon as the beast is taken by the Neck, it may presently flie up and hang him, for otherwise with his teeth he will shear it asunder and escape away alive: or else that neer the place where the rope is fastened, to slip upon the head of the Fox, there be placed some thick collar or brace, so as he can never bite it asunder.

The French have a kinde of Gin to take by the legs (which they call *Hauspied*) and I have heard of some which have found the Foxes leg in the same Gin, bitten off with his own teeth from his body, rather putting himself to that torment with his own teeth, then to expect the mercy of the Hunter, and so went away upon three feet: and other have counterfeited themselves dead, restraining their breath and winking, not stirring any member when they saw the Hunter come to take them out of the Gin, who coming and taking his leg forth, not suspecting any life in them, so soon as the Fox perceiveth himself free, away he went and never gave thanks for his deliverance: for this cause *Blondus* saith truly, that only wise and old Hunters are fit to take Foxes, for they have so many devises to beguile men, and deliver themselves, that it is hard to know when he is safely taken, untill he be thoroughly dead.

They also use to set up Gins for them baited with Chickens in bushes and hedges: but if the setter be not at hand so soon as the Fox is insnared, it is dangerous but that the beast will deliver it self. In some places again they set up an iron toile, having in it a ring for the Fox to thrust in his head, and through that sharp pikes, at the farther end whereof is placed a piece of flesh, so that when the hungry Fox cometh to bite at the meat and thrusteth in his head, the pikes stick fast in his neck, and he inevitably insnared. Moreover, as the harmfulness of this beast hath troubled many, so also they have devised more engins to deceive and take him; for this cause there is another policy to kill him by a bow, full bent, with a sharp arrow, and so tenderly placed as is a trap for a Mouse, and as soon as ever the Fox treadeth thereon, presently the arrow is discharged into his own bowels, by the weight of his foot.

Again, for the killing of this beast they use this sleight, they take of Bacon-grease or Bacon as much as ones hand, and roast the same a little, and therewith anoint their shooe-soles, and then take the liver of a Hog cut in pieces, and as they come out of the wood where the beast lodgeth, they must scatter the said pieces in their foot-steps and draw the carcassee of a dead Cat after them, the savour whereof will provoke the beast to follow the foot-steps, then have they a cunning Archer or handler of a Gun, who observeth and watcheth in secret till the beast come within his reach, and so giveth him his great and deadly wound.

But if the Fox be in the earth, and they have found his den, then they take this course to work him out. They take a long thing like a Bee-hive, and open at one end, and iron wiers at the other like a grate, and at the open end is set a little door to fall down upon the mouth, and to inclose the Fox when he entreth in by touching of a small rod that supporteth that door. This frame is set to the Foxes dens mouth, and all the other passages watched and stopped. The Fox having a desire to go forth, and seeing light by the wiers, misdeemeth no harm, and entreth into the hive which is wrought close into the mouth of his den, and being entred into it, the rod turneth the door fast at the lower end or entrance, and so the Fox is intrapped, to be disposed of at the will of the taker.

Foxes are annoyed with many enemies; and to begin with the least, the small flies, called Gnats, do much trouble and infect them, against whom the Fox useth this policy; He taketh a mouthful of straw or soft hay, or hair, and so goeth into the water, dipping his hinder parts by little and little, then the flies betake themselves to his head, which he keepeth out of the water, which the Fox feeling, dippeth or diveth also the same under water to his mouth, wherein he holdeth the hay as aforesaid, whereunto the flies runne for sanctuary or dry refuge, which the Fox perceiving, suddenly casteth it out of his mouth, and runneth out of the water, by this means easing himself of all those enemies.

In like manner, as all beasts are his enemies, and he friend and loving to none, so with strength, courage, and policy, he dealeth with every one, not only against the beasts of the Land, but also against the monsters of the Sea. When he findeth a nest of Wasps in the earth, or in other places, as in trees, he layeth his tail to the hole, and so gathereth into it a great many of them, which he presently dasheth against the wall, or tree, or stones adjoyning, and so destroyeth them, and thus he continueth untill he have killed them all, and so maketh himself executor to their heaps of hony.

A noble instance of a Foxes courage!

The subtilty of a Fox taken in a snare.

The beasts that are enemies of Foxes.

Abertus.

His

Gillius.

His manner is when he perceiveth or seeth a flock of fowl to flie in the air, to rowl himself in red earth, making his skin to look bloody, and lie upon his back, winking with his eye, and holding in his breath as if he were dead, which thing the birds, namely Crows, Ravens and such like observing, because of the hatred of his person, they for joy alight and triumph at his overthrow, and this the Fox endureth for a good season, till opportunity serving his turn, and some of the fowl come neer his snout, then suddenly he catcheth some one of them in his mouth, feeding upon him like a living and not a dead Fox, and so doth devour and eat him, as the Leopard doth devour and eat Apes, and the Sea frog other little fishes.

In like sort he deceiveth the Hedge-hog, for when the Hedge-hog perceiveth the Fox coming to him, he rowleth himself together, like a foot-ball, and so nothing appeareth outward except his prickles, which the Fox cannot indure to take into his mouth, and then the cunning Fox to compasse his desire, licketh gently the face and snout of the Hedge-hog, by that means bringing him to unfold himself again, and to stand upon his legs, which being done, he instantly devoureth, or else poisoneth the beast with the urine that he rendereth upon the Hedge-hogs face: and at other times he goeth to the waters, and with his tail draweth fishes to the brim of the River, and when that he observeth a good booty, he casteth the Fishes clean out of the water upon the dry land, and then devoureth them.

All kindes of Hawkes are enemies to Foxes, and Foxes to them, because they live upon Carrion, and so in the Province of *Ula*. *Avicen* saw a Fox and a Crow fight together a long season, and the Crow with his talons so be-gripling the Foxes mouth that he could not bark, and in the mean time she beat and picked his head with her bill untill he bled again. The Eagles fight with Foxes and kill them; and *Olaus Magnus* affirmeth, that in the Northern Regions they lay Egges and hatch their young in those skins which they themselves have stripped off from Foxes and other beasts.

The Kites, Vultures, and Wolves, are Enemies to Foxes, because they are all flesh-devouring creatures, but the Fox which hath so many enemies, by strength or subtilties overcometh all. Whereupon *Persius* calleth a subtil man a Fox, saying,

Asutam vapidu servas sub pectore vulpem.

The medicines
arising out of
Foxes.

The medicinal uses of this beast are these, First, (as *Pliny* and *Marcellus* affirm) a Fox sod in water till nothing of the Fox be left whole except the bones, and the legs or other parts of a gowry body washed and daily bathed therein, it shall drive away all pain and grief, strengthening the defective and weak members; so also it cureth all the shrinking up and pains in the sinews: and *Galen* attributeth the same virtue to an *Hyena* sod in Oil, and the lame person bathed therein, for it hath such power to evacuate and draw forth whatsoever evill humour aboundeth in the body of man, that it leaveth nothing hurtful behind.

Sextus.

Neverthelesse, such bodies are soon again replenished through evill diet, and relapsed into the same disease again. The Fox may be boyled in fresh or salt water with Annise and Thyme, and with his skin on whole and not slit, or else his head cut off, there being added to the decoction two pintes of Oil.

Mathaeolus.

The flesh of a Fox sod and layed to a sore bitten by a Sea-hare, it cureth and healeth the same. The Foxes skin (as is already said) is profitable against all moist Fluxes in the skin of the body, and also the Gowt, and cold in the sinews. The ashes of Foxes flesh burnt and drunk in wine, is profitable against the shortness of breath and stoppings of the Liver.

Albertus.
Sileius.

The blood of a Fox dissected and taken forth of his urine alive, and so drunk, breaketh the stone in the bladder; or else (as *Myrepsus* saith) kill the Fox, and take the blood and drink a cupful thereof, and afterward with the same wash the genital parts, and within an hour the stone shall be voided: the same virtue is in it being dried and drunk in Wine with Sugar.

Absyrus.

Oxyration and Foxes blood infused into the Nostrils of a lethargick Horse, cureth him. The fat is next to a Buls and a Swines, so as the fat or lard of Swine may be used for the fat of Foxes, and the fat of Foxes for the Swines grease in medicine. Some do herewith anoint the places which have the Cramp, and all trembling and shaking members. The fat of a Fox and a Drake inclosed in the belly of a Goose, and so roasted, with the dripping that cometh from it, they anoint paralytick members.

Actius.

The same with powder of Vine twigs mollified and sod in lie, attenuateth and bringeth down all swelling tumours in the flesh. The fat alone healeth the *Alopecias* and looseness of the hair; it is commended in the cure of all Sores and Ulcers of the head; but the gall and fime with Mustard-seed is more approved. The fat is also respected for the cure of pain in the ears, if it be warmed and melt at the fire, and so instilled; and this is used against tingling in the ears. If the hairs rot away

Hierocles.

Absyrus.

Theomneus.

on a Horse tail, they recover them again by washing the place with Urine and Bran, with Wine and Oil, and afterward anoint it with Foxes grease. When Sores or Ulcers have procured the hair to fall off from the head, take the head of a young Fox burned with the leaves of black *Orchanes* and *Alcyonium*, and the powder cast upon the head recovereth again the hair.

Ægineta.

If the brain be often given to Infants and sucking children, it maketh them that they shall remain free from the falling evill. *Pliny* prescribeth a man which twinkleth with his eyes, and cannot look stedfastly, to wear in a chain the tongue of a Fox; and *Marcellus* biddeth to cut out

the

the tongue of a live Fox, and so turn him away, and hang up that tongue to dry in purple thred, and afterward put it about his neck that is troubled with the whiteness of the eyes, and it shall cure him.

But it is more certainly affirmed, that the tongue either dried or green, layed to the flesh wherein is any Dart or other sharp head, it draweth them forth violently, and renteth not the flesh, but only where it is entred. The Liver dried and drunk cureth often sighing. The same or the Lights drunk in black wine, openeth the passages of breathing. The same washed in wine and dried in an earthen pot in an Oven, and afterward seasoned with Sugar, is the best medicine in the world for an old Cough, for it hath been approved to cure it, although it hath continued twenty years, drinking every day two spoonfuls in wine.

The Lights of Foxes drunk in water after they have been dried into powder, helpeth the Milt; and Myrepius affirmeth, that when he gave the same powder to one almost suffocated in a Plurisie, it prevailed for a remedy. Archigene prescribeth the dried Liver of a Fox for the Splenetick with Oxymel: and Marcellinus for the Milt drunk after the same manner; and Sextus adviseth to drink it simply without composition of Oxymel.

The Gall of a Fox instilled into the ears with Oil, cureth the pain in them; and mixed with Hony Attick and anointed upon the eyes, taketh away all dimness from them, after an admirable manner. The Milt bound upon the tumors and bunches of the brest, cureth the Milt in mans body. The reins dried and mingled with Hony, being anointed upon kernels, take them away. For the swelling of the chaps, rub the reins of a Fox within the mouth. The genitals because of their glistly and bony substance, are approved for the dispersing of the stone in the bladder.

The stones take away pimples and spots in the face. The dung pounded with Vinegar, by anointment cureth the Leprosie speedily.

These and such other virtues Medicinal both the elder and later Phyticians have observed in a Fox, wherewithal we will conclude this discourse; saving that many writers have devised divers witty inventions and fables of Foxes, under them to express vices of the world, as when they set a Fox in a Fryers weed, preaching to a sort of Hens and Geese, following the fiction of Archilochus Fox, to signifie how irreligious Pastors in holy habits beguile the simple with subtilty. Also of a Fox teaching a Hare to say his Credo or Creed betwixt his legs, and for this cause almighty God in his word compareth false Prophets to Foxes, Ezek. 13. destroying the young Grapes and Plants. The Weasil brought a Fox into a Garner of Corn through a small hole, and when he had filled his belly, he assayed to come out again at the same place, but in vain, because his body swelled with over eating, and therefore he was constrained to come out as empty and hungry as he came in: whereupon this conference was betwixt them;

*Forte per angustam tenuis Vulpesula rimam,
Reperat in cameram frumenti, postea rursus
Ire foras pleno tentabat corpore frustra.
Cui mustela procul, Si vis, ait, effugere isihinc,
Macra cavum repetes arctum, quem macra subisti.*

Of the GENNET-CAT, called GENETHA.

THIS beast is called *Genitocatus*, either for the similitude it holdeth with a Cat, or else because it hath been believed that it was engendred by a Cat, but I rather do assent that the right name thereof is *Ginetta* or *Gineiba*, because they are bred in Spain with the Gennet horses, and so taketh his name from the place. Albertus (though a learned man, yet many times he was deceived in the names of beasts) called this creature *Genocha*, and the Germans call it *Ein Gennithkatz*. The quantity or stature hereof is greater then a Cat, but lesser then a Fox, and therefore I think it about the mold or bigness of a young Fox of six moneths old. It is a meek and gentle creature, except it be provoked; for in Constantinople they are kept tame, and are suffered to go up and down from house to house like Cats. Being wilde, they love the vallies and low places, especially the Marishes or land neer the waters, for the steep rocky mountains they cannot endure. And these Cardan taketh to be of the Weasil kinde, because the forme and disposition thereof, especially to the tame and Domesticall Weasil, and in Spain they are cald *Foinai*, being black and ash-coloured, distinguished and variably interlined with many spots.

But Scaliger who was delighted to contradict Jerom Cardan, cannot endure to hear of this comparison betwixt Weasils and Ginnet-cats, because he saith, the skin of a *Gennitta* is bigger then three Weasils, and that it resembleth a Weasil in nothing except in the ears; but Cardans comparison toucheth not the quantity, but only the outward form and qualities, and he himself disagreeeth not that it is equall in quantity to an Otter. But certainly the skin thereof is admirable and beautiful to behold, and if they were not common, but rare and seldom found beasts, it is no question but the price thereof and due estimation would excell many others: For the abundance

Dioscorides.

Pliny.

Sextus.

Albertus.

Bellonius.

Isidorus.

Vincentius.

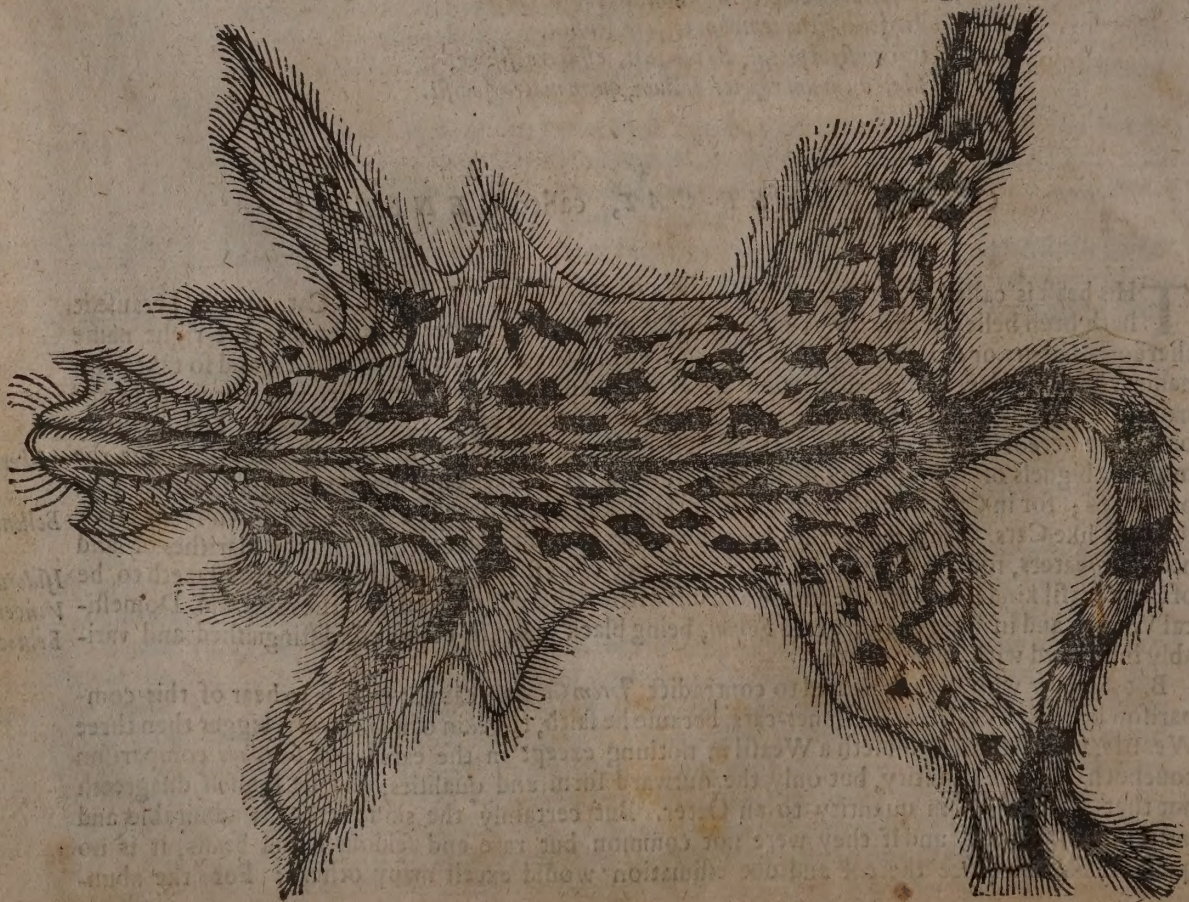
Belnac.

dance of spots, their natural and uniform order, their shining splendor and brightness, give place to no other party-coloured beast, as you may observe in the true figure thereof here declared.



Of the skin.

In the next place I have thought good to express the figure of the skin taken off, which skin, from the head to the top of the tail, was about four spans and one palm long, and the tail was as



long

long as the body being severed from the skin; the latitude or breadth thereof in the middle, was about one span in breadth, the middle of the belly, and the upper part of the neck, were ash coloured, and in the tail were eight black circles and so many white, one successively following the other: the whole body aspersed with black spots, and the residue yellowish white.

The skin smelt sweetly and somewhat like to a Musk-cat, and from Lyons in France they are brought into Germany, three or four of them being sold for a Noble. It is very probable that it is a little kinde of Panther or Leopard, for there is a little Panther which hath such spots, and besides of such a stature and harmless disposition, whose skin in old time was pretiously used for garments, and the savour thereof was very pleasant, and therefore I supersede any further discourse hereof, till we come to the declaration of the greater beast.

Of the GOAT, Male and Female.

THe male or great Goat-Buck, is called in Hebrew, *Atud*, and the lesser *Seir*, and *Zeir*. The Chalde tranſlateth it, Gen. 13. *Teias-jaii*, and Numb. 15, *Ize*; the Arabians, *Taus* and *Maex*; the Persians, *Asteban*, and *Buſan*; the Grecians, *Tragos*, or devouring or ravening in meat, according to the Verſe;

Tragus ab Edendo quod grana fraſta pane.

Alſo *Chimaron* and *Enarchan*; the Latins, *Hircus*, and ſometime *Caper*, which word properly ſignifieth a Gelded Goat, as *Martial* uſeth in this Verſe:

Dum jugulas hircum, factus eſ ipſe Caper.

The Italians, *Beccho*; the Germans, *Bock*, and for diſtinction ſake, *Geiſsbock*, and *Reechbock*, and *Boeck*; the Spaniards, *Cabron*; the French, *Bouc*, the Illyrians, *Kozel*.

The reaſon of the Latin word *Hircus*, is derived of *Hirtus* (ſignifying rough) by reaſon of the roughneſs of their bodies. And it is further to be underſtood, that the general kind of Goats (which the Latins diſtinguiſh by *Hircus*, *Capra*, and *Hædus*, that is, by their ſex, or by their age; the Hebrews call them ſingularly *Ez*, and plurally *Izim*, Numb. 15. for a Goat of a year old, you ſhall read *Izbeſſeth*. The Chalde uſeth alſo the general word *Oza*; the Arabian, *Schaah*; the Perſian, *Buz*, and whereas Levit. 16. *Seir* is put for *Caper* a gelded Goat, there the Chalde rendereth it *Zephirah*; the Arabians, *Atud*, and the Perſian *Buzgalaie*. And in the ſame Chapter you ſhall read *Azazel*, which *David Kimbi* rendereth for the name of a mountain neer *Sinai* where Goats uſe to feed and lodge: and the *Septuagints* tranſlate it *Apompation*, ſignifying emiſſion or ſending away, and for this cauſe I ſuppoſe, that when the Scape-goat was by the Prieſt ſent out of the Temple, he went to that mountain, and therefore the word *Azazel* ſeemeth to be compounded of *Ez*, a Goat, and *Azal Iuit*, that is, he went; for the Scape Goat went and carryed away the evil.

The Grecians call the female Goat *Aix*, which ſeemeth to be derived of *Ez* the Hebrew word. The Arabians, *Dakh*, and *Metabam*, as I find in *Avicen*; the Saracens, *Anſe*; the Italians, *Peccho*, changing B from the male into P; and the Spaniards, *Capron*; the French, *Chener* or *Chievère*; the Germans, *Geiſs*; the Illyrians, *Koza*; and the Tuſcanes at this day call a female Goat *Zebei*. And this may ſuffice for the names of both male and female.

Their nature is to be declared ſeverally, except in thoſe things wherein they agree without difference: and firſt of all, the male is rightly termed *Dux & maritus Caprarum*, the guide and husband of the females, and therefore *Virgil* ſaith of him not improperly, *Vir gregis ipſe Caper*. The He-goat is the husband of the flock: and except in his genitals and horns, he differeth not in any proportion or ſubſtance from the female. His horns are longer and ſtronger then are the females, and therefore upon provocation he ſtriketh through an ordinary piece of Armor or Shield at one blow: his force and the ſharpneſs of his horns are ſo pregnable. He hath many attributes among the learned, as left-ſided, aged, greedy, bearded, ſwift, long-legged, horn-bearer, captain of the flock, heavy, rough, hoarſe-voiced, rugged, unarmed, unclean, ſtrong-smelling, lecherous, briſtler, wanderer, vile, wanton, ſharp, ſtinking, two-horned, and ſuch like: whereby his nature and qualities are ſo deciphered, as it needeth no long treatiſe of explication.

Their ſeveral parts.
The Epithets of Goats.

The venereous diſpoſition of Goats.
Ælianus.

Columella.

There is no beaſt that is more prone and given to luſt then is a Goat, for he joyneth in copulation before all other beaſts. Seven dayes after it is yeaned and kiddened, it beginneth and yeeldeth ſeed, although without proof. At ſeven moneths old it engendereth to procreation, and for this cauſe that it beginneth ſo ſoon, it endeth at five years, and after that time is reckoned unable to accompliſh that work of nature. When the Egyptians will deſcribe ſecundity or ability of generation, they do it by picturing of a male Goat.

That which is moſt ſtrange and horrible among other beaſts is ordinary and common among theſe, for in them ſcarce the Brother joyneth with the Siſter, and a Camel can never be brought to cover his Dam: but among theſe the young ones being males, cover their Mother, even while they ſuck their milk. If they be fat, they are leſſe venereous then being macilent or lean. *Herodotus* declareth that in his time a Goat of *Mendeſia* in Egypt, had carnal copulation with a woman in the open ſight

sight of men, and afterward was led about to be seen. When they desire copulation they have a proper voice wherewithal (as it seemeth) they provoke the female to love. This is called it in *Italy*, *Biccar* and *Biccarie*, which the *Venetians* apply to all lecherous companions as commonly as a proverb, and this they never use but at that time. By reason of his lust, his eyes sink deep into the corners of their holes (called *Hirqui*) and *Apuleius* with other *Grammarians* do derive the word *Hircus*, whereby this beast is called, from that disposition.



By drinking salt water they are made desirous and apt to procreation. At that time they fight mutually one with another for their females, and it is a term among the late writers, to call those men *Hirci*, Goats, which are contented to permit other men to lie with their wives in publick, before their own faces for gain, because they imagine that such is the property of Goats. But I know not with what reason they are moved hereunto, for there is a memorable story to the contrary.

Cælius.

A memorable story of the punishment of buggery.

In *Sibaris* there was a young man called *Crathis*, which being not able to retain lust, but forsaken of God, and given over to a reprobate sense, committed buggery with a female Goat, the which thing the master Goat beheld and looked upon, and dissembled, concealing his mind and jealousy for the pollution of his female. Afterward finding the said young man asleep, (for he was a Shepherd) he made all his force upon him, and with his horns dashed out the buggers brains. The man being found dead on this manner, and the Goat which he had ravished delivered of a monster, having a Mans face, and a Goats legs, they call it *Silvanus*, and place it in the rank of idoll Gods, but the wretched man himself was buried with more honour then becomed, for they gave him a noble funeral, and finding a River in *Achaia* which mingled water with another, they called it *Crathis*, after the name of that unnatural and beastly monster; whereupon also came the *Italian Crathis* which *Sirabo* remembreth. By which story it is evident, that jealous rivalry resteth as well in Goats as in Men of more reasonable capacity and understanding.

Cælius.

Sirabo.

The lust of the females and their copulation.

Means to stir up the Goats to copulation.

Ælianus.

The females desire of copulation is no lesse then the males, for while they suck they admit the male, and at the seventh month they conceive. The best time of their admission to procreation is about the end of Autumn (according to *Columella* his opinion) They are not filled the first day of copulation, but the second or third, and those which are joyned in *November* do bring forth their young in the Spring when all things grow fresh and green: wherefore if they chance to be slack, and not willing to engender or couple, their keepers use this sleight or policy, to procure and stir up their lust. They rub their udders with Nettles untill they contrain bloud, and afterward with a handful of Salt and Nitre, or else with Pepper or Myrrhe; after which rubbing, their desire of copulation much increaseth, and it maketh the female to provoke the male and undergo him more willingly; and this thing also procureth in them abundance of milk (as *Aristotle* affirmeth) he had seen tryed by making experiment thereof upon the breasts of Women, Virgins, and Widows: And generally all the keepers of Cattell do herewith rub their genitals, for the furthering and provoking in them carnal copulation, with the things aforesaid.

Florentinus.

The time of their going with young.

The multiplication of young Kids.

Ælianus.

Aristotle.

The time of their young bearing.

The strong smell or savour of a Goat. In Mercat.

They being filled and with young, they carry them in their belly five moneths before deliverance. After three years old the female ceaseth to retain in her self or confer to her Kids the strength of nature, and the male after four, so that it is not a part of good husbandry to keep their young which they bring forth after those years, but rather to kill them and make them away: So also it is not good to keep their firstlings, or those which are first of all engendred, but rather the second or third seed of procreation. Some of them bring forth twins, and some more, as it is reported of the Goats of *Egypt*, which bring forth five at a time, because they drink of the fruitful river of *Nilus*: for the Goatherds of the Countrey do give thereof to their Cattell, and fetch it into all parts of that region, and in *Ilyria* they breed twice a year, bringing sometime three, four, or five at once, but three at a time are never to be kept, but killed and eaten, for they are accounted not worth their bringing up; only cold maketh them to suffer abortments, and sometimes they bring forth monsters like to other Cattell (for all little beasts are more apt to engender monsters then the greater.)

Concerning the time that they bear young, it is in *Italy* eight years, and being fat they are not apt to conceive, wherefore they make them lean before they admit them to their bucks. One male is sufficient for ten females, and some (saith *Varro*) provide but one for 15 (as *Menas*) and other but one for 20 (as *Murus*.) There is no creature that smelleth so strongly as doth a male Goat, by reason of his immoderate lust, and in imitation of them the *Latins* call men which have strong breaths (*Hircosi*) Goatish: wherefore *Plautus* saith to an old lecherous fellow which could not keep his lips from flavering of women,

Cum sis jam ætatis plenus, anima fætida,
Senex hircose in osculere mulierem.

Plutarch.

A secret in female Goats.

Ælianus.

The description of Goats and their best properties.

And therefore *Tiberius Cæsar* who was such a filthy and greasie-smelling old man, was called (*Hircus vetulus*) an old Goat, in the *Atellanian Comædie*. They conjecture of men that have hairy legs to be unchast and full of lust, by reason of their similitude with a Goat, and those which have a shrill and clamorous voice, the *Grecians* call *Margoi*, (that is, blockheads.) Those which have eyes like to Goats they call *Aegopoi*, Goat-eyes, that is very red eyes. The *Egyptians* affirm that their female Goats when *Sirius* the Star in the beginning of Dog-dayes riseth with the Sun, do continually look upon the East, and that their attentive observation is a most certain argument of the revolution, that is the appearance and departure of the said Dog dayes. The like things do the *Lybians* report of their Goats concerning that Star, and moreover that they foresee and foresheew change of weather, for they depart from their stables, and run wantonly abroad before showers, and afterward having well fed of their own accord return to their folds again.

Concerning the description of their several parts, it is good to follow the direction of *Cassinius*, first to look to their age (as is before said) if men desire to provide Goats for herd-breed and

Lorentius.

profit, so as their Kids may be like them, and they bear young or continue procreation eight years at the least. And for their outward parts, let them be firm, great, well compacted, full of muscles, and the superficies of their whole body be soft and equal, without bunches or indentures: therefore a thick hair, two dugs hanging under their snout or chin, are good signes of the best Goats.



The several
kinds of Goats
Albertus.

There are two kinds of Goats, one horned, and of this sort the long sharp-horned beasts, with broad foreheads, are the most approved, and by the circles of their horns their age is discerned: But the unhorned are best for breed, procreation and milk, and such are the *Caspian* Goats, which are for the most part white, flat nosed, and little of growth. Their eyes are very deep in their heads, and therefore

therefore their sight sharp, strong and continual seeing bright and clear in the night, but the colour of their eyes variable, like to the colour of their bodies; The males have more teeth then the females, for the females want their upper teeth: But males and females have large beards under their chins, and this is called *Aruncus* (saith *Eryngus*) but the reason hereof is, because that when a Goat is taken by the beard and drawn out of the fold, all the residue stand amazed, and so also when any of them hath eaten Sea-holly (cald *Eryngium*;) so that *Aristotle* confoundeth *Eryngium* for *Aruncum*, and so taketh one for another. Once in *Lemnos* there was a male Goat which had so much milk wrung out of his paps growing betwixt his legs, that therewith a Calf, by licking it received the beefstings, but afterward the male Kid begotten by the same Goat had the like udders, whereat the owner being much amazed, because it was a prodigious thing, for his satisfaction asked counsel at the Oracle, from whom he received this answer, that it betokened nothing but plentiful encrease of his Cattel. The females have two udders under their loins next to the small of their belly, except the *Lybian* Goats, and their udders lie under their breast or forepart of their belly, like an Apes. In *Naxos* the Goats have greater Gals then in any other part of the world, and the forepart is held prodigious: On the contrary, in *Chalcis* the Goats have no gall at all. They have many bellies and a round Milt, which thing no other horned-beast hath, except a Sheep. The males have harsher hairs then their females, and the *Lybian* Goats have hair as long as womens, and very rough curled, which the inhabitants shear off every year, and therewith the Ship-wrights make cable ropes: but in *Cilicia* and *Phrygia*, they shear them and make the stuffe called *Zambelot*: and another kinde of Cloth called *Mathaliaze*. In *Arabia* they make Tents of Cloth compiled of Asses and Goats hair, and it seemeth that *Cilicia* received his name of this kinde of Cloth, which is called in *Latin*, *Cilicium*, or else that this Cloth was first invented among them, whereupon it received that denomination; but among the *Grammarians* and *Poets*, *Lana Caprina* (Goats wool) grew to a proverb, to signifie a thing of no weight or moment, as it is in *Horace*;

Ælianus.
1 liny.

Orthagoriscus.
Aristotle.
Naxos.
Ælianus.

Of the *Cilician*
Cloth made of
Goats hair,
Belluu.

*Alter rixatur de lana sape caprina,
Propugnat nugis armatus*

There are another sort of Goats which are called *Syrian* Goats, and of some *Mambrin* Goats, and most commonly *Indian* Goats, because they are most noble in that Countrey, and that in *Coytha*; and likewise in the Region of *Damiata*, for *Mambre* is a Mountain neer *Hebron*, from whence it is probable, that the word *Mambrin* cometh; wherefore I have thought good to expresse the figure both of the greatest of that kinde, as it was taken by *Antonius Musa Brasovalus*, Physitian to the Noble Duke *Hercules de Este*, at *Ferraria*, by one of these Goats brought thither to be seen.

Of the *Mem-*
brin or *Syrian*
Goats.



These lesser were found pictured in an old manuscript in Germany, which book did intreat of the Holy Land. The greater Goat I conjecture to be the same which *Leo Afer* calleth *Adimain*, and is found in *Mauritania*, being as tall as an Ass, and hath very long broad ears pendant, and under them next to their necks two things like dugs or paps, which hang down from their throat, and these are most fruitful in milk, and with these the *Lybians* plow, and keep them in stead of Kie and other Cattel, for they milk them, and of their milk make Butter and Cheese. Their hair is very short, and they very gentle and familiar, so that the said *Leo* affirmeth, that when he was a young man, and loved those rash and wanton sports wherewithal youth are delighted, he got up upon one of these, and rode quietly upon the back of it above a quarter of a mile. They keep, being wilde, in the Deserts of *Lybia*, and if at any time they stray or wander into *Numidia*, and the fields thereof, it is accounted by the people and inhabitants a prodigious and monstrous thing.



The lesser kinde I conjecture to be the right *Mambrine* or *Syrian* Goat, although some of the late writers call it an *Indian* Goat; the reason is, because (as hath been said) they call all strange beasts by the names of *Indians*, if they finde them not in their own Countrey. The ears of it are large and broad, as the picture describeth, and such ears have the Goats of *Gallia-Narbon*, being at the least as broad as a mans span; they are of colour like wilde Goats, their horns very sharp, and standing not far distant one from the other, and have stons like a stone Horse, being in all other parts not unlike to the vulgar and common Goat.

Albertus.
How Goats
take breath.
Varro.

Some curious herdsmen (as *Alcomon* and *Archelaus*) have delivered to the world, that Goats take breath through their ears; and *Phyles* approveth their conceit, because he had seen an experiment of a Goat, that his mouth and nostrils being stopped fast, nevertheless he seemed not to be troubled for want of breath: and for this also is alleadged the authority of *Oppianus*, who writeth of certain Goats (called *Aegari*) that they have a certain hole or passage in the middle of their head, betwixt the horns, which goeth directly unto the liver, and the same stopped with liquid Wax, suffocateth or stifeth the beast.

If this be true (as I would not any way extenuate the authority of the writer) then it is very likely that some have (without difference) attributed to all kindes of Goats that which was proper to this kinde alone, for the former opinion is not reasonable: Nevertheless I leave every man to his own liberty of believing or refusing.

Their quick
sense of hear-
ing.
Horace.
Alex. Mind.

There is no beast that heareth so perfectly and so sure as a Goat, for he is not only help in this sense with his ears, but also hath the Organ of hearing in part of his throat, wherefore when the *Egyptians* describe a man which hath an excellent ear, they expresse him by a Goat. There are some kinde of Goats in *Illyria* which have whole hoofs like a Horse, and these are only found in that Region. In all other Nations of the World they are cloven footed.

The use of
their several
parts.

The use of their several parts is singular, and first of all to begin with their skin, the people of *Sardinia* (as saith *Nymphidorus*) nourish Goats for their skins, whereof they make them garments, being dressed with the hair upon them; and they affirm strange virtue in them, namely, that they heat their bodies in the Winter, and cool them in the Summer; and the hairs growing upon those skins are a cubit long, therefore the man that weareth them in Winter time, turneth the hairy side next to his body, and so is warmed by it; and in Summer the raw side, and so the hair keepeth the Sun from piercing his skin and violence of heat: And this also is usual in *Suevia*, where the women wear garments of Goats hair in the Winter, and also make their childrens coats thereof, according to *Virgils* saying in *Moreto*,

Suidas.
Varinus.

Et cinctus villosa tegmine Capra.

Baysius.

For this cause the Merchants buy them rough in those parts of *Savoy* neer *Geneva*, and their choice is, of the young ones which die naturally, or are kild, or else such as were not above two years old. The *Tyrians* in the *Persian* war, wore upon their backs Goat-skins. In ancient time they made hereof *Dipthera*, that was a kinde of Parchment, whereon they wrote on both sides, and had the name in *Greek* from that use: which *Hermolaus* by a metaphorical allusion, called *Opistographi*. From the use of these in garments, came the appellation of harlots to be cald *Pellices*, and a whores bag was called *Penula Scortea*, such a one is used by Pilgrims which go to visit the Church of Saint *James* of *Calec*, and such Carriers or Foot-posts had wont to use in their journeyes, which caused *Martial* to write thus;

Ingrediare

*Ingreddiare viam caelo licet usq; sereno,
An subitas nusquam scortea cepit aquas.*

The Sandals which men were wont to wear on their feet in the East Countries, were also made of Goats skins, and there was a custome in Athens, that men for honour of Bacchus, did dance upon certain Bottles made of Goats skins, and full of wind, the which were placed in the middest of the Theatre, and the dancer was to use but one leg, to the intent that he might often fall from the slippery bottles, and make the people sport; whereunto Virgil alluded this saying;

Mollibus in pratis undos saliere pro ures.

Pliny.

There is also a Ladanum tree in Carmania, by the cutting of the bark whereof there issueth forth a certain gum, which they take and preserve in a Goats skin; their use in War wherein the Souldiers were wont to lie all Winter, and therefore we read that Claudius the Emperour had given him thirty tents of Goats skins for his Souldiers attend upon the Judges, and the Mariners also by these defended themselves from the violence of storms upon the Sea; and so I leave this part of the beast, with remembrance of that which is written in holy Scripture, Heb. 11. that the people of God in ancient times did flee away from the rage of superstition, being apparelled, or rather meanly disguised in Goat skins, being charitably holped by the beasts, that were cruelly put to death by wretched men.

In the next place the milke of Goats cometh to be considered, for that also hath been, is, and will be of great account for Butter and Cheese, which the Writers call Tyropæia, and Virgil celebrateth the singular commendation both of the Wool and of the Milke, in these Verses;

*Hæc quoque non cura nobis leuiore tuenda,
Nec minor usus erit, quamvis Milesia magno
Vellera mutantur Tyrias, incocta rubores.
Densior hinc soboles, hinc largi copia lactis;
Quo magis exhausto spumaverit ubere mulctra,
Lata magis pressis manabunt flumina mamma.
Nec minus interea barbas, incanaque menta
Cyniphi tondent birei setasque comantes
Usus in Castrorum: & misera velamina nautis.*

The milk of Goats.

Therefore their Milk is profitable for Butter, although inferior to a Cows, yet equal to a Sheeps, and the herdsmen give their Goats salt before they be delivered of their young, for this maketh them to abound in milk. Others with Goats milk preserve their Wine from corruption by sowreness; first they put into their Wine the twentyeth part so much as is of the Wine, and so let it stand in the same vessell covered three or four dayes, afterward they turn it into a sweet and fresh vessell, and so it remaineth preserved from all annoyance of sowreness.

To increase Goats milk.
Albertus.
A secret in the milk of Goats.
Myrepsus.

Cheeses made of Goats milk were wont to be called Velabrenses Casei, because amongst the Romans they were made at Velabrum, and that with smoak, whereupon Martial made this Distichon;

*Non quemcumque focum, nec fumum caseus omnem,
Sed Velabrensem qui bibit, ipse sapit.*

Hermolaus.

Aristotle and Julius Pollux do commend the Sicilian Cheese, which was made of Sheep and Goats milke together, and by Athenæus it is called Caseus Tromilicus, and by Simonides Stromilicus. In Rhetia of Helvetia there are excellent Cheeses made of Goats milk and Cow milk mixed together. The milk also of a Goat mixed to a Womans milk is best for the nourishment of man, because it is not too fat; yet Galen saith, if it be eaten without Honey, Water, and Salt, it curdleth in the belly of a man like a Cheese and strangleth him; and being so used it purgeth the belly; from thence came the fiction of the Poets, that Jupiter was nourished by a Goat, and that afterward in his War against the Titanes or Giants, he slew that Goat by the counsel of Themis, and wore her skin for an armor, and so having obtained victory, placed the Goat among the Stars, whereupon she was called Aix ourania, a heavenly Goat, and so Germanicus Caesar made this Verse upon him, and Jupiter himself was called Agiochus.

*Illa putatur
Nutriva esse Jovis, si verè Jupiter infans
Ubera Cretæ suxit fidissima Capræ,
Sydere quo claro gratum testatur alumnus.*

Agiochus.

The

Of the flesh of
Goats.

The flesh of male Goats is not wholesome for mans body, but the flesh of a female in the Spring and Fall of the leaf, by reason of the good nourishment may be eaten without danger. They are worse then Bull-beef, because they are sharper in concoction and hotter, wherefore if they digest not well, they increase melancholy. The liver of a Goat being eaten, doth bring the Falling sickness; yet being salted a good space, and then sod with Vine-branches, or other such broad leaves, to keep them asunder, and some Wine poured into the Water when they almost sod, they become are very which and delicate meat; and therefore the Athenians praised the Lacedemonians, that in their feast sweet they called *Copide*, they slew a Goat; and held it for a divine meat.

Also *Cleomachus* an Academick of Carthage, relateth of a certain Thebane Champion, which excelled in strength all the Champions of his time, and that he did eat continually Goats flesh, for it is very strong, and remaineth a long season in the body, and doth much good being digested, notwithstanding the strong and rank smell thereof, otherwise it is dangerous, as is already said, therefore *Fiera* having commended the Kyd, when he cometh to speak of the Goat he writeth thus:

*Cum male olet sicut, fit jam caper improbus, absit,
Et cadat ante focos victima Bacche tuos.*

*Aegineta.
Albertus.*

But *Pliny* affirmeth, that if a male Goat eat Barley bread, or Parsneps washed, the same day that he is killed, then there is no poyson in his flesh: the stones of a Buck goat, resist concoction, and beget evill humors in the body: wherefore such a banquet is called in Greek (*Tragos Hulibertus*) for Goats after their copulation, have an evill flesh, not fat, but dry, and the remedy to make their flesh sweeter, is to geld the male when he is young and tender, for so his temperature is amended by a cold and moist constitution.

Textor.

The Inhabitants of Portugal eat Goats flesh, and account it delicate meat; especially such as dwell in the Mountains. In Germany they make of it a kinde of meat which is called *Klobuust*, and is prepared on this manner: they take a Goats heart newly taken out of the body, and slit it into small pieces, and break six Egges upon it, and the crums of white bread, seasoned with spices and Saffron, and so put into a bag, and sod or roasted: afterward they are served upon the table, and strewed over with Kitchin Sugar.

*Pliny.
Hermolaus.
Pausanias.*

The guts being salted, are called (*Hilla*) which the French stufte like puddings, and call them (*Saulcisses*) from whence cometh our English Sawfadge, of this sewet and fat of Goats are the best candles made, because it is hard and not over liquid. The blood of a Goat hath an unspeakable property, for it scoureth rusty iron better then a file, it also softneth an Adamant stone, and that which no fire is able to melt, nor iron to break, being of such an invincible nature, that it contemneth all violent things, yet is it dissolved by the warm blood of a Goat. The Load-stone draweth iron, and the same being rubbed with garlick, dyeth and loseth that property, but being dipped again in Goats-bloud, reviveth and recovereth the former nature.

*Palladius.
Archabaches.*

Osthanes prescribeth for a remedy of love, the urine of a Goat to be mingled with Spikenard, and so drunk by him which is overcome with that passion, assuring him thereby that they shall fall in as great loathing as ever before they were in loving. With the hoofs of a Goat they drive away Serpents, and also with the hairs by burning and perfuming them in the place where the Serpents lodge. With the horns of Goats they make bows; for in *Delos* there was dedicated the horn of a Goat, which was two cubits long and a span; and hereat ought no man to wonder, for that noble Bow of *Pandarus*, which *Homer* commendeth, was made of a horn of a female Goat.

Varinus.

Africanus declareth, that in ancient time they made fruitful their Vine-yards by this means: they took three horns of a female Goat, and buried them in the earth with their points or tops downward, to the root of the Vine-stocks, leaving the hollow tops, standing a little out of the ground, and so when the rain descended, it filled the horns, and foked to the root of the Vine, perswading themselves thereby that they received no small advantage in their Grapes. The gall of a female Goat put into a vessel, and set in the earth, is said by *Albertus* to have a natural power to draw Goats unto it, as though they received great commodity thereby. Likewise, if you would have white hairs to grow in any part of a Horse; shave off the hair and anoint the place with a gall of a Goat, so shall you have your desire. The *Sabzans*, by reason of continual use of Myrrhe and Frankincense, grow to a loathing of that savour: for remedy of which annoyance, they perfume their houses by burning storax in Goats-skins. And thus much for the several parts of a Goat.

There were in ancient time three kindes of Heards-men which received dignity one above another; the first were called (*Bucolici*) Neat-heard, because they keep the greater Cattel: the second were (*Opiliones*) Shepherds, of their attendance upon Sheep: the third, last, and lowest kinde, were termed *Aepoli*, and *Caprarii*, that is, Goat-heards, or Keepers of Goats; and such were the *Locrensi-ans*, who were called *Ozole*, because of their filthy smell, for they had the most part of their conversation among other Beasts.

A Goat-heard or Keeper of these Cattel must be sharp, stern, hard, laborious, patient, bold and chearful, and such a one as can easily run over the Rocks through the Wilderness, and among the bushes without fear or grief, so that he must not follow his flock like other heards, but go before them: they must also be light and nimble, to follow the wandering Goats, that run away from their fellows, and so bring them back again, for Goats are nimble, moveable, and inconstant, and therefore

therefore apt to depart away, except they be restrained by the herd and his Dog. Neither have Goats a Captain or Bell-bearer like unto Sheep, whom they follow, but every one is directed after his own will, and herein appeareth the pride of this Beast, that he scorneth to come behinde either Cattell, or Sheep, but always goeth before; and also in their own herds among themselves, the Buck goeth before the female for the reverence of his beard, (as *Ælianus* saith) the labour of the Goat-herd must be to see his Cattell well fed abroad in the day time, and well foulded at night; the first rule therefore in this husbandry is to divide the flocks, and not to put any great number of them together, for herein they differ from Sheep, who love to live together in multitudes, as it were affecting society by which they thrive better, and mourn not so much as when they are alone: but Goats love singularity, and may well be called Schismatics among Cattell, and therefore they thrive best lying together in small numbers, otherwise in great flocks they are soon infected with the pestilence, and therefore in *France*, they care not to have *Magnos Greger, sed plures*: not great flocks, but many.

The number of their flock ought not to exceed fifty, whereupon *Varro* writeth this story of *Gabinus* a Roman Knight, who had a field under the Suburbs containing a thousand Akers of pasture ground, who seeing a poor Goat-herd bring his Goats every day to the City, and received for their milk a penny a peece, he being led with covetousness, proponed to himself this gain, that if he stored his said field with a thousand Milch-female-goats, he also should receive for their milk a thousand pence a day; whereupon he added action to his intent, and filled his field with a thousand Goats, but the event fell out otherways then he expected: for in short time the multitude infected one another, and so he lost both milk and flesh: whereby it is apparent, that it is not safe to feed great flocks of these Cattell together.

In *India* in the Region *Coitha*, the Inhabitants give their Milch-goats dried fishes to eat, but their ordinary food is leaves, tender branches, and boughs of trees, and also bushes or brambles; whereupon *Virgil* wrote in this manner:

*Pascuntur verò silvas & summa Lycei,
Horrentesque rubos & amantes ardua dumos.*

They love to feed on the Mountains better then in the Vallies and green Fields; always striving to lick up the Ivie or green plants, or to climb upon trees, cropping off with their teeth all manner wilde herbs, and if they be restrained and enclosed in fields, then they do the like to the plants that they finde there; wherefore there was an ancient law among the *Romans*, when a man let out his ground to farm, he should always condition and except with the Farmer that he should not breed any Goat in his ground, for their teeth are enemies to all tender plants: their teeth are also exitiable to a tree, and *Pliny* and *Varro* affirm, that the Goat by licking the Olive-tree maketh it barren; for which cause in ancient time, a Goat was not sacrificed to *Minerva* to whom the Olive was sacred.

There is no creature that feedeth upon such diversity of meat as Goats, for which cause they are elegantly brought in by *Eupolis* the old Poet, bragging of their belly chear, wherein they number up above five and twenty several things, different in name, nature, and taste: and for this cause *Eustathius* defended by strong argument against *Disarius*, that men and cattell which feed upon divers things, have less health then those Beasts which eat one kinde of fruit alone. They love Tamarisk, Aldern, Elm-tree, Affaraback, and a tree called *Alaternus*, which never beareth fruit but only leaves: also three-leaved-grass, Ivie, the herb *Lada*, which groweth no where but in *Arabia*, whereby it cometh to pass, that manytimes the hair of Goats is found in the gumb called *Ladanum*, for the peoples greedy desire of the gumb, causeth them to wipe the juyce from the Goats beard.

For the increase of milk in them, give them Cinquefoyl five days together before they drink, or else binde Dittany to their bellies, or (as *Lacuna* translateth the words out of *Africanus*) you may lay milk to their bellies, belike by rubbing it thereupon. The wilde Goats of *Creet*, eat Dittany afore said against the strokes of Darts: and *Serapion* avoucheth by the experience of *Galen*, that Goats by licking the leaves of Tamarisk, lose their gall; and likewise that he saw them licking Serpents which had newly lost their skins, and the event thereof was, that their age never turned or changed into whiteness or other external signes thereof.

Also it is delivered by good observation, that if they eat or drink out of vessells of Tamarisk, they shall never have any Spleen; if any one of them eat Sea-holly, the residue of the flock stand still and will not go forward, till the meat be out of his mouth. The *Grammarians* say that *Chimera* was killed by *Bellerophon* the son of *Glaucus*, in the Mountain *Lyceus*, and the reason hereof is, that the Poets fained *Chimera* to be composed of a Lyon, a Dragon, and a Goat, and in that Mountain all those three were kept and fed: for in the top were Lyons, in the middle were Goats, and also at the foot thereof Serpents. If they suffer heat or cold they are much endangered, for such is their nature that they avoid all extremity, and the females with young are most of all molested with cold; if they have conceived in the Winter, then many Abortments or casting their young followeth.

In like sort it hapneth if they eat Walnuts (and not to their full) unripe, therefore either they must be suffered to eat of them to satiety, or else they are not to be permitted to them.

Aristotle.

Constantinus.

Ælianus.

Dioscorides.
Pliny.

If at any time they eat Scammony, Hellebore, Lefferon, or Mercury, they are much troubled in their stomach, and lose their milk, especially the white Hellebore. The Publicans in the Province of Cyrene, have all the government of the pastures, and therefore they permit not Benzwine to grow in their Countrey, finding thereby great gain; and if at any time their Sheep or Goats meet with any branch thereof, they eat it greedily, but the Sheep immediately fall to sleep, and the Goats to Neezing. *Agoletibros* and *Sabine* are poyson to Goats. The Herb called in Greek, *Rhododendron*, and may be Englished Rose-tree, is poyson to Goats, and yet the same helpeth a man against the venome of Serpents.

Horus.

The prickle or spindle tree (called also *Euonymus*) which groweth in the Mount *Oecynius* called *Ordyno* about the bigness of a Pine-apple-tree, having soft leaves like the same, and it buddeth in September, and the flower is like to a white Violet flower, this killeth Goats, except they be purged with black Hellebore immediately after they have eaten thereof. The Egyptians when they will describe a man devouring Sheep or Goats, they picture the herb *Curilago* or *Conyza*, because it also killeth them. Also as *Clodrysippus* affirmeth they avoid Cumin, for it maketh them mad, or bringeth upon them Lethargies, and such like infirmities.

Ælianus.

He avoideth also the spettle of man, for it is hurtful to him, and to the Sea-fish *Scolopendra*, and yet he eateth many venomous herbs and groweth fat thereby; and this also may be added, that Goats grow fat when they are with young, but by drinking of Honey they are weakened, and indangered of death. Concerning their drink, it is necessary for a skilful Goat-herd to observe the nature of the beast, and the best time and place of their watering, according to the saying of *Virgil*:

— *Jubeo frondentia Capris*
Arbuta sufficere, & fluvios præbere recentes.

Aristotle.
Myndius.
Ælianus.

In the Summer they are to be watered twice a day, and at other times once only in the afternoon: but it is reported of the Goats of *Cephalenia*, that they drink not every day like other Goats, but only once or twice in six months, and therefore they turn themselves to the winde or cold air of the Sea, and by yawning, suck into their mouths or bellies that which serveth them instead of water. When the Sun declineth, they ly and look not upon one another but on the contrary, and they which lodge in the fields take up their rest amongst their acquaintance. But if they be used to fold or house, they remember it, and repair thither of their own accord, which thing caused the Poet to write in this manner:

Atque ipsæ memores redeunt in tecta, suosque
Ducunt: & gravido superant vix ubere limen.

Columella.

Concerning their stables or houses to lodge in, for their defence against the cold, the diligent herd-man must observe, that nothing must be laid under the Goat to ly upon, and it is best to make his stable upon stones, or some some such hard floor, and the same must be kept and turned dry every day from the annoyance of their dung, for that hurteth their heads. It is good to set the window of their stable to the Sun, and from the winde, according to the counsel of *Virgil*;

Et stabula a ventis hyberno opponere soli,
Ad medium conversa diem, cum frigidus olim
Jam cadit extremoque irrorat Aquarum anno.

Although Goats be stronger then Sheep, yet they are never so sound, for in buying and selling of them, he was never accounted a wise man, that either hoped to buy, or promised to sell without fault. It was sufficient in open Market places, when and where Goats were to be sold, to promise, *Hodie capras recte esse & bibere posse & eas licite habere*, that is, that the day of their sale they were well, and could drink, and they were his own, and it was lawful for him to have them.

But farther no man was urged, for (*Archelaus* saith) they are ever *Febricitantes*, because their breath is hotter, and their copulation more fiery, and therefore their herdmen must not be unprovided of good and sufficient medicine to help them, and not only against their natural diseases, but also their continual horn-wounds which they give one another by their often fightings, and also when they aspire to climbe upon steep and craggy pointed rocks or trees, they often fall and are wounded, in such cases they have no such Physician as their Keeper, whose bag and box must be as an Apothecaries shop to yeeld continual remedies to all their grievances.

Florentius.

The best means to preserve them in health, next to a good diet and warm lodging, is, to plant *Alysson* neer to their stabling houses. And their continual Ague spoken of before is profitable to their body, for when it departeth and leaveth them, presently they perish and dy. Sheep and Goats have a natural foresight of the Pestilence or Murrain, of Earth-quakes, and of wholesome temperate weather, and of abundance and store of fruits; but neither of both shall be ever infested by the Pestilence, if you give them the powder of a Storks Ventricle or maw one spoonful thereof in water every day.

Quintilius.

And whereas all other kinde of Cattel when they are sick, consume and pule away by little and little, only Goats perish suddenly, insomuch as all that are sick are unrecoverable, and the other

of the flock must be instantly let blood and separated before the infection overspread all; and the reason of their sudden death, is because of their abundance of food, which ministrerth speedy flax for the fire of their disease to burn. At such times they must not feed all the day long; but only thrice or four times a day be led forth to grass, and brought in again to their stables.

If any other sickness annoy them, they are to be cured with Reed, and the roots of white Thorn beat together with Iron Pestles, and mingled with rain Water; and so given to the Cattel to be drunk: but if this medicine help not, then either sell them away, or else kill them, and salt them till you minde to eat them. Goats are not troubled with Lice or Nits, but only with Ticks.

There is a certain Wine called *Melampodion*, the report is, that one *Melampus* a Shepherd had it revealed unto him, to cure the madness of Goats: it is made of black Hellebore, and Goats milk. Goats are also molested and subject to the Falling sickness, and this is known by their voyce and cold moist brains; and therefore the Roman Priests were commanded to abstain from touching such Beasts.

They are also troubled with the Gowt; the Female-goat easeth the pain of her eyes by pricking them upon a Bull-rush, and the Male-goat by pricking them upon a Thorn, and so pituitous matter followeth the prick, whereby the sight is recovered without any harm done to the Apple; and from hence it is supposed, that the Physicians learned their *Parakentesis* pricking of sore eyes with a Needle.

The Females never wink in their sleep, being herein like the Roe-bucks. There are certain Birds (called *Capri-mulgi*) because of their sucking of Goats, and when these or any of them have sucked a Goat, she presently falleth blinde. If at any time she be troubled with the Dropsie, an issue must be made under her shoulder, and when the humour is avoided, stop up the hole with liquid pitch. They drink the seed of *Seselis* to make them have an easie deliverance of their young, and for that cause *Columella* prescribeth a pinte of sod Corn and Wine to be infused into their throats in that extremity; their other maladies being like unto Sheep, we will reserve their description and cure to that History.

These Goats have in ancient times been used for Sacrifices, not only by the Sovereign command of Almighty God, but also by the practise of Heathen people; for their perfect sacrifice which consisted of a Ram, a Goat, a Hog, and a Bull, was called *Hecatombe* and *Tryttis*.

The reason why Swine and Goats were sacrificed among the Heathen, was, because the Swine dig up the earth with their noses, and root out the Corn, they were sacrificed to *Ceres*; and the Goats spoil the Vines by biting, for which cause they sacrificed him to *Bacchus*; that so the drunken God might be pacified with the blood of that Beast, whose hallowed grapes he had devoured; whereupon the Poet writeth thus:

*Sus dederat pœnas: exemplo territus horum
Palmitē debueras abstinuisse, Caper.
Quem spectans aliquis dentes in vite prementem,
Talia non tacito dicta dolore dedit:
Rode caper vitem, tamen hinc cum stabis ad aras,
In tua quod spargi cornuā possit, erit.*

When they sacrificed a Goat in *Græcia*, they tryed him by giving him Pease or cold water to drink, which if he refused, they also refused him for sacrifice, but if he tasted it, they took and offered him.

Martiall having seen, or rather heard of a Countrey Priest, sacrificing a Goat, and being assisted by a Countreyman, when the Beast was slain, the Priest commanded the poor Countrey man to cut off the stones, *Teter ut immunde carnis abiret odor*, to let the unwholesome vapour of the unclean flesh out of the body. Afterward the Priest being busie about the Sacrifice, and stooping down to the carcass of the Beast, his cods appeared behinde him betwixt his legs, the which when the Countreyman saw, he suddenly cut them off with his sharp knife, thinking that the ancient ceremony of fasting required this to be done: whereupon *Martial* wrote this Epigram,

*Sic modo qui Tuscus fueras, nunc Gallus aruspex,
Dum jugulus hircum, factus es ipse caper.*

The *Mendesians* worshipped Goats both males and females, because as they imagine they were like to their God *Pan*. The *Egyptians* also deified the male Goat for his genital members, as other Nations did *Priapus*. The *Gentiles* had also a brazen Goat, whereupon *Venus* rode in brass, which picture they called (*Pandemon*) and *Venus* (*Epitragia*): I think that lust could not be better described then by this emblem, for venereous persons will suffer their whores to do any disgrace unto them, for their carnal pleasure. And thus much for these male and female Goats, now follow the stories of the wilde Goats and the Kids in order.

Of the *GOAT* called by *Pliny* a *DEER*.



There is no man that shall see this Beast, but will easily yeeld unto my opinion, that it is a Goat, and not a Deer, the hair, beard, and whole proportion of body most evidently demonstrating so much, neither is there any difficulty herein, except for the horns which turn forward at the point, and not backward, which thing yet swarveth not so much from a Goat as from a Deer, and therefore can be no good reason to alter my opinion. There are of this kinde, as Doctor Cay affirmeth, in the Northern part of *England*, and that figure which is engraven at *Rome* in a Marble pillar, being a remembrance of some Triumph which *Pliny* setteth forth, differeth in no part from this Beasts description and proportion: Yet I take it that it may be brought into *England* from some other Nation, and so be seen in some Noble mans house, but that it should be bred there, I cannot finde any monument of authority, but I rather conjecture the same to be bred in *Spain*. Of these kindes there are three Epigrams in *Martial*, whereby is declared their mutual fights killing one another: their fear of Dogs, and their flesh desired both of men and beasts.

The first Epigram describing their wilful fight, one killing another, and so saving a labour to the Hunter, for they kill themselves to his hand, is thus:

*Frontibus adversis molles concurrere damas
Vidimus, & fati sorte jacere pari.
Spectavere Canes prædam stupuq; superbus
Venator, cultro nil superasse suo.
Unde leves animæ tanto caluere furore?
Sic pugnant Tauri, sic cecidere viri.*

The second Epigram is a Dialogue speaking to the Emperour, who took care to encrease his game, seeing not only men were enemies to them, but they also to one another, whereupon he writeth this distichon;

*Aspicis imbelles tentent quàm fortia damæ
Prælia; tam timidis quanta sit ira feris.
In mortem parvis concurrere frontibus audent,
Vis Cæsar damis parcere? mitte Canes.*

The third Epigram is a complaint of their weak and unarmed state, having neither teeth like Bores, nor horns like Harts to defend themselves, but lie open to the violence of all their enemies:

*Dente timetur Aper, defendunt cornua ceruæ,
Imbelles damæ quid nisi præda sumus?*

These are of a whitish yellow colour on the back, and are nourished sometime for the pleasure, and sometime for the profit of their possessors, for they will suffer hunting like a Deer, and also be tamed for milk like a Goat. And hereof I finde no other especial mention among Authors, beside that which is already rehearsed.

Of the *WILDE GOAT*, and the Figure of the *Helvetian, Alplan,*
WILDE or *ROCK-GOAT*.



Wilde-goats are transfigured into many similitudes, and also dispersed into many Countries beyond the Seas and in the *Alpes*, the picture of the *Alpine* wilde Goat is here set down. They are also to be found in *Italy*, in the Mountains of *Fiscela* and *Tetrica*, in so much as the tame Goats which are nourished there, are said to be derived of these wilde Goats, these are called *Cynthian* Goats, because they are bred in the Mountains of *Delos* called *Cynthus*. There are of these which are found in the tops of the *Lybian* Mountains as great as Oxen, whose shoulders and legs abound with loose shaggy hair, their thins small, their faces are round, their eyes are hollow and hard to be seen. Varro.

Their horns crooking backward to their shoulders, not like other Goats, for they stand far distant one from another: and among all other Goats they are indued with a most singular dexterity of leaping, for they leap from one top to another, standing a great way asunder, and although many times they fall down upon the hard rocks, which are interposed betwixt the Mountains, yet receive they no harm: for such is the hardness of their members, to resist that violence, and of their horns to break their falls, that they neither are offended thereby in head nor legs.

Such are the Goats of *Soractum* as *Cato* writeth, which leapeth from Rock to Rock, above three-score foot: of this kinde are those Goats before spoken of in the History of the tame Goat, which are thought to breath out of their ears, and not out of their nostrils; they are very swift and strong horned; the love betwixt the Dams and the Kids in this kinde, is most admirable; for the Dam doth most carefully educate and nourish her young; the young ones again, do most thankfully recompense their mothers carefulness, much like unto reasonable men, which keep and nourish their own Parents in their old decrepit age, (which the love of God and nature doth enjoin them) for satisfaction of their own education; so do these young wilde Goats, toward their own mothers: for in their age they gather their meat and bring it to them, and likewise they run to the rivers or watering places, and with their mouths suck up water, which they bring to quench the thirst of their Parents: and when as their bodies are rough and ugly to look upon, the young ones lick them over with their tongues, so making them smooth and neat.

And if at any time the Dam be taken by the Hunters, the young one doth not forsake her till he be also insnared: and you would think by the behaviour of the imprisoned Dam towards her young Kids, and likewise of the Kid towards his Dam, that they mutually contend one to give it self for the other: for the Dam foreseeing her young one to hover about her in the hands of her enemies, and continually to follow; with sighs and tears seemeth to wish and perswade them to depart, and to save themselves by flight, as if they could say in the language of men, *Fugite filii infestos venatores, ne me miseram capti materno nomine private*; that is to say, Run away my sons, save your selves from these harmful and greedy Hunters, lest if you be taken with me, I be for ever deprived of the name of a mother. The young ones again on the other side wandring about their Mother, bleat forth many a mournful song, leaping to the Hunters, and looking in their faces, with pitiful aspects, as if they said unto him; We adjure you (oh Hunters) by the Maker of us all, that you deliver our Mother from your thralldom, and in stead of her take us her unhappy children, bend your hard hearts, fear the laws of God which forbiddeth innocents to be punished, and consider what reverence you owe to the old age of a mother; therefore again (we pray you) let our lives satisfy you for our Dams liberty. But poor creatures, when they see that nothing can

move they unexorable minde of the Hunters, they resolve to dye with her whom they cannot deliver, and thereupon of their own accord, give themselves into the hands of the Hunters, and so are led away with their mother.

Concerning the *Lybian* Goats before spoken of, which live in the tops of Mountains, they are taken by nets, or snares, or else killed by Darts and Arrows, or some other art of hunting. But if at any time they descend down into the plain fields, they are no less troubled, then if they were in the waves of some great water. And therefore any man of a slow pace may there take them, without any great difficulty.

The greatest benefit that ariseth from them is their skin and their horns; with their skins they are clothed in Winter time against Tempests, Frosts, and Snow, and it is a common weed for Shepherds and Carpenters. The horns serve them in steed of Buckets, to draw water out of the running streams, wherewithall they quench their thirst, for they may drink out of them, as out of cups; they are so great, that no man is able to drink them off at one draught, and when cunning artificers have the handling of them, they make them to receive three times as much more.

The self same things are written of the Wilde Goats of *Egypt*, who are said never to be hurt by Scorpions. There is a great City in *Egypt* (called *Coptus*) who were wont to be much addicted to the worship of *Isis*, and in that place there are great abundance of Scorpions, which with their stings and poyson, do oftentimes give mortal and deadly wounds to the people, whilst they mourn about the Chappel (for they worship that Goddess) with funeral lamentation: against the stinging of these Scorpions, the *Egyptians* have invented a thousand devises, whereof this was the principal; At the time of their assembly, they turn in wilde female Goats naked among the Scorpions lying on the ground, by whose presence they are delivered and escape free from the wounds of the Serpents, whereupon the *Coptites* do religiously consecrate these female Goats to divinity, thinking that their Idoll *Isis* did wholly love them, and therefore they sacrificed the males, but never the females.

It is reported by *Plutarch*, that wilde Goats do above other meat love meal and figs, wherefore in *Armenia* there are certain black fishes which are poyson; with the powder or meal of these fishes they cover these figs, and cast them abroad where the Goats do haunt, and as soon as the Beasts have tasted them, they presently dy. Now to the Wilde Goat before pictured, called in *Latine*, *Rupicapra*, and *Capricornus*; and in *Greek*, a *Gargos*, and *Aigastros*, and of *Homer* *Ixalon*; of the *Germans*, *Gemmes*, or *Gemmus*; the *Rhetians* which speak *Italian*, call it *Camuza*; the *Spaniards*, *Copramontes*; the *Polonians*, *Dzykakoza*; the *Bohemians*, *Korytanski Kozalik*; that is to say, a *Carinthian* Goat, because that part of the *Alpes* called *Carinthia* is neer bordering upon *Bohemia*.

Albertus.

Bellonius writeth, that the *French* call him *Chambria*, and in their ancient tongue *Ysard*, this is not very great of body, but hath crooked horns which bend backward to his back, whereupon he stayeth himself when he falleth from the slippery Rocks or Mountains.

Pliny.

These horns they are not fit to fight they are so small and weak, and therefore nature hath bestowed them upon them for the cause aforesaid. Of all other Goats this is the least, it hath red eyes, but a quick eye-sight, his horns are black, being nine or ten fingers long, and compassed about with divers circles, but at the top none at all, which is sharp and crooked like a hook. They arise at the root *Parallelwise*, that is by equal distance one from another, being hollow the breadth of ones thumb, the residue solid like the Harts.

The Males in this kinde differ not from the Females, neither in horn, colour, or proportion of body: they are in bigness like the common Goat, but somewhat higher. Their colour is betwixt brown and red. In the Summer time they are red, and in the Winter time they are brown. There hath been seen of them which were white and black, in distinct colour one from another: and the reason hereof is; because they change colour many times in the year. There are some of them altogether white, but these are seldom found; they inhabit for the most part the Rocks or Mountains, but not the tops like the Ibexes, neither do they leap so far as the foresaid Goats. They come down sometime to the roots of the *Alpes*, and there they lick sand from the Rocks, like as the Village-goats to procure them an appetite.

The *Helvetians* call these places in their natural tongue *Fultzen*, that is *Salares*: about these places do the Hunters hide themselves, and secretly with guns, bows, or other such instruments, they suddenly shoot and kill them. When they are hunted they step up to the steepest Rocks, and most inaccessible for Dogs, by that means providing their own safety: but if the Hunters press after them and climb upon the Rocks with hands and feet, they leap from thence, from stone to stone, making their way to the tops of the Mountains, so long as they are able to go or climb, and then they hang by the horns of their head, as if they were ready to fall, which caused *Martial* to write thus:

*Pendentem summa Capream de rupe videbis,
Casuram speres, decipit illa Canes.*

Where the Poet attributeth that to the Roe which belongeth to the Wilde Goat, and there they hang many times till they perish, because they cannot loose themselves again, or else they are shot with Guns, or fall down headlong, or else are driven off by the Hunters. From the day of Saint *James* they use themselves to the coldest parts of the Mountains, that by degrees they may be accustomed to the cold. I have known some

of

of these made tame, so that they have descended down to the flocks of tame Goats, whom they do not avoid like the *Ibex*.

From these wilde Goats hath that same herb (called *Doronicum*) and of the *Græcians*, *Doronieu*, given a name among the *Germanis*, *Gemesse Wort*; that is, Wilde-goats-herb, being excellent to cure the Colick, and therefore highly esteemed among the *Arabians*, *Græcians*, and *Mauritanians*. It is hot and dry in the second degree; and the Countrey people in *Helvetia*, do give it against diziness in the head, because these wilde Goats oftentimes feed upon the same, and yet are never troubled with that infirmity, although they run round about the Mountains.

There are Hunters which drink the blood of this Goat coming hot out of his body, immediately after the wound given, against that sickness. The fat and milk of a wilde Goat mingled together, have cured one long sick of the Prick. The wilde Goats of *Creet*, being wounded with poysoned darts, run presently and eat of the herb *Dittani*, by the vertue and juyce whereof, they not only avoid the arrow which sticketh in their skin, but also death, and cure the poyson.

Of the KID.

HAVING formerly discoursed of several Kindes of Goats, now it followeth that we should also intreat of the Kid, which is the issue of a Goat; and first of the several names thereof. It is called in *Hebrew*, *Egedi*; which because it signifieth also a Lamb, they put unto it *Haiissim*, and the plural Masculine is *Gedaiim*, and the feminine *Gedioth*, Gen. 35. where the *Chaldean* translation hath *Gadeia*; the *Persian*, *Buskabale*, or else *Cabali busan*; for the *Persians* render *Cabale* for *Sketer*; in *Hebrew*, *Busan*, for *Issim*. The *Septuagints* render *Erison*; and vulgarly at this day, the *Græcians* call him *Eriphon*; but the truth is, that *Eriphoi* are Kids of three or four months old, and after that time untill their procreation, they are called *Chimaro*; the *Latines* call him *Hoedi abedendo*, from eating (as *Isidorus* saith) for then their flesh is tender and fat, and the tast thereof pleasant. The *Italians* call it *Cauretto*, or *Capretto*, and *Ciaverello*; the *Rhetians* which speak *Italian*, *Uzsol*; the *Spaniards*, *Cabrillo*; the *French*, *Chereru*; the *Germanis*, *Gitse*, or *Kuslein*; the *Polonians*, *Coziel*.

Of the name.

Varinus.

It was a question whether nature would finish her parts upon a young one out of the dams belly, wherefore a triall was made upon a Kid which never saw his dam, for upon a season a dissection was made upon a Female-goat great with young, and out of her belly was a young one taken alive, so as it could never see the mother; the same Kid was put into a house where were many bowls full of Wine, Oyl, Milk, and Honey, and other liquid things: there also lay beside him divers Kindes of fruits, both of the Vine, of Corn, and of Plants; at last this Kid was seen to arise and stand upon his feet, and as if some body had told him that his legs were made to walk upon, he shook off all that moistness which he brought with him out of his mothers belly, afterward he scratched his side with his foot, and then went and smelled at all the former vessels, and at last coming to the milk bowl, he supped and licked thereof, which when the beholders saw, they all cryed out that *Hippocrates* rule was most true, *Animalium naturas esse indoctas*, that is to say, the natures of creatures are not formed by art, but of their own inclination.

There is nothing more wanton then a Kid, whereupon *Ovid* made this verse:

Splendidior vitro, tenero lascivior hædo.

They often jump and leap among themselves, and then they promise fair weather, but if they keep continually with the flocks, and depart not from their mothers, or continually suck or lick up their meat, they fore-shew a storm, and therefore they must be gathered to their folds, according to the Poets saying;

Ælianus.

Si sine sine modoque

Pabula delibent cum tutas vesper adire
Compellat caulas, monstrabunt adfore nimbos.

If Geese swallow the hairs of Kids or Goats, they dy thereof. Kids are not to be separated from their Dams, or weaned till they be three months old, at which time they may be joyned to the flocks: they are nourished when they are young after the same manner as they be at a year old, except that they must be more narrowly looked unto, lest their lasciviousness overthrow their age: and besides their Milk, you must give unto them Three-leaved-grass, Ivie, and the tops of Lentils, tender leaves, or small twigs of trees: and whereas commonly they are brought forth in twins, it is best, to choose out the strongest headed Kid for the flock, and to sell the other away to the Butchers. Out of the rennet of the Calves or Kids is the Coagulation.

There was a certain law (as appeareth by *Baifus*) in the Books of the civill Lawyers, that shoes should be made of the skins of Kids, as appeared by ancient Marble monuments at Rome, which thing *Martiall* approveth in his verses to *Phebus*; shewing how time altereth all things, and that the skins of Kids which were wont to cover bald heads, are now put upon bare legs; the verses are these that follow,

Anatolius.

Varro.

Palladius.

Hædina tibi pelle contegenti

Nude tempora verticemque calve,

Festive tibi, Phæbe, dixit ille

Qui dixit caput esse calceatum.

Albertus.

Out of the hide of a Kid is made good glew; and in the time of *Cicero* they stuffed beds with Kids hair: their flesh hath been much esteemed for delicate meat; and for that cause dressed and trimmed sundry ways; the best Kids for meat have been said to come from *Melos*, or *Umbria*, or *Viburnum*, which never tasted grass, but have more milk in them then bloud, according to the saying of *Juvenal*.

De Viburno venit pinguis agros

Hædulus & toto grege mollior, inscius herbe,

Nec dum ausus virgas humilis mordere salicti.

Arnoldus.

For this cause they may safely be eaten all the year long while they suck, both of men of temperate and hot constitution, for they are less hurtful then the Rams, and do easily digest, and nourish temperately, for they engender thin and moist bloud, and also help all hot and temperate bodies, and they are at the best when as they are neither too old, that is above six moneths, nor too young, that is under two moneths.

The red or sandy coloured are the best, yet is their flesh hurtful to the Colick. *Simeon Sethi* affirmeth, that if a man eat a Kids liver before he drink in the morning, he shall not be over drunk that day. *Celsus* also prescribeth it in the sickness of the Holy-fire. They are wholesome, sod, roasted, or baked, but the ribs are best sod. *Platina* teacheth one way whereby it was dressed in his time for a delicate dish; they took some field Herbs and fat broth, two whites of an Egge well beaten together, with two heads of Garlick, a little Saffron, and a little Pepper, with the Kids flesh, put all together into a dish, roasted before at the fire upon a spit (with Parsely, Rosemary, and Lawrel leaves) and so serv'd out with that sauce, and set on the table: but if they did not eat it before it was cold, it weakened the eye-sight, and raised up venereal lust.

The bloud also of a Kid was made into a bludding, and given to be eaten of them which have the Bloody-flux. They have also devised to dress a Kid hot, and to fill his belly with Spices and other good things: likewise it is sod in Milk with Lawrel, with divers other fashions, which every Cook is able to practise without the knowledge of learning.

And thus I might conclude the discourse of Kids with a remembrance of their constellation in the Waggoner, upon the Bulls horn, which the Poets observe for signes and tokens fore-shewing rain and cloudy weather, according to *Virgils* verse:

Quantus ab occasu veniens pluvialibus Hædis.

These Stars rise in the Evening about the Nones of *October*, and in *December*, they went to sacrifice a Kid with Wine to *Faunus*. There is a Bird called *Captilus*, which is a great devourer of Kids and Lambs, and the same also is hunted by a Dragon, for when she hath filled her self with these Beasts, being wearyed and idle, the Dragon doth easily set upon her and overtake her. Also when they fish for the Worm seven cubits long in the River *Indus*, they bait their hook with a Lamb or Kid, as is reported by *Ælianus*; and the Ancients were wont by inspection into the intrails of Kids, to declare or search into things to come, as *Gyrallus* amongst other their superstitious vanities rehearseth.

The manifold medicinal properties of Goats come now in the end of this story to be declared, and first of all it is to be noted, that these properties are several, both in the male, female, and Kid; and therefore they are not to be confounded, but as the diligence of learned Authors hath invented, and left them severally recorded, so they require at our hands which are the heirs of such beneficial helps, the same care and needful curtesie.

Pliny.

The medicines
arising out of
male Goats.
Sextus.

There are some which do continually nourish Goats in stables neer their dwelling houses, with an opinion that they help to continue them in health, for the Ancients ordained that a man which had been bitten or stroke by Serpents, and could not easily be cured thereof, should be lodged in a Goats stable. The hairs of a Goat-buck burned and perfumed in the presence, or under a man whose genital is decayed, cureth him.

Pliny.

Sextus.

The powder of a Wine bottle made of a Goats skin with a little Rozen, doth not only stanch the bloud of a green wound, but also cure the same. The powder of the Horn with Nitre and Tamarisk seed, Butter, and Oyl, after the head is shaven, by anointing it therewith, strengtheneth the hair from falling off, when it groweth again; and cureth the Alopecia; and a horn burnt to powder and mingled with meal, cureth the chippings in the head, and the scabs: for taking away the smell of the arm-pits, they take the horn of an old Goat, and either scrape or burn the same, then adde they to it a like quantity of Myrrhe, the Goats-gall, and first scrape or shave off the hair, and afterward rub them therewith every day, and they are cured by that perfirication.

The blood fryed in a pan, and afterwards drunk with Wine, is a preservative against intoxications, and cureth the Bloody-flux, and the blood in a Sear-cloth is applyed against the Gout, and cleanseth away all Leprosies, and if the blood come forth of the nose without stay, then rub the nose with this blood of a Goat. It being fitted to meat cureth all the pains of the inward parts: being sod upon coals stayeth the looseness of the belly, and the same applyed to the belly mixed with fine flowre, and Rozen, easeth the pain in the small guts; the same mixed with the marrow of a Goat, which hath been fed with Lentils, cureth the Dropsie; and being drunk alone, breaketh the stones in the reins; and with Parsley drunk in Wine, also dissolveth the stone in the bladder, and preventeth all such calculating gravel in time to come.

There is a Medicine called by the Apothecaries *Divina manus*, Gods hand, against the Stone, and they make it in this manner. When Grapes begin to wax ripe, they take a new earthen pot, and pour into it water, and seethe the same till all the scum or earthy substance thereof be ejected: and the same pot cleansed, then take out of the flock a Male-goat of four year old, or thereabouts, and receive his blood as it runneth forth of his slaughtered body into that pot, so as you let go the first and last stream thereof to the ground, and save the residue: then let it thicken in the pot, and so being therein congealed, break it into many pieces with a reed, and then covering it with some linnen cloth, set it abroad in the day time where it may gather dew, and then the next day set it abroad in the Sun again to exhale the same dew, (if in the mean time there fall no rain) then let it dry, and afterward make thereof a powder, and preserve it in a box, and when the evill pincheth, use a spoonful of it with Wine of *Creet*: and *Philagrus* commendeth the manifold benefit hereof, for he had often tryed it, and with a medicine made of an *African Sparrow* mixed with this, he procured one to make water, and to void a great stone which had not vented his urine in many days, and lived in the mean time in horrible pains; and the same vertue is attributed hereunto, if it be anointed neer the bladder; and one be bathed in the warm air, and so oftentimes both the Bath and the Oyntment be reiterated. *Marcellus* teacheth how one may make tryal of the vertue of this blood, for if he take a Male-goat, and put him up close seven days, feeding him in the mean time continually with Bays, and afterward cause a young Boy to kill him, and receive his blood in a bladder, and put in the said bladder sandy stones, like unto those that are ingendered in the bladder of a man, within a short time he shall see those stones dissolved, and scarce to be found in the bladder of blood, by which he confidently affirmeth, that nothing in the World is of like power to remove the Stone; but withal he willet some superstitious observations, as namely, that he be killed by a chaste person; and on a Thursday, or Sunday, or such like: but the conclusion is, that the said Blood must be dryed to powder in an Oven, and afterward prescribeth that three ounces hereof, one ounce of Thyme, one ounce of Pennyroyal, three ounces of burned *Polypos*, one ounce of white Pepper, one ounce of *Apian*, and one ounce of Lovage-seed to be given to the party in sweet Wine fasting, and having no meat in his stomach undigested, and having digested the medicine, he must eat presently.

And therefore if it be true, as all antiquity and experience approveth, that the Goats blood breaketh and dissolveth the Adamant stone, then much more (saith *Jacobus Silvius*) may it work upon the stone in a mans bladder. The flesh of Goats decocted in water, take away all bunches and kernels in the body. The fat of this beast is more moist then a Females or a Kids, and therefore it is most strong in operation, to scatter, dissolve, and resolve more then a Sheep.

It cureth all Fissures in the lips mixed with Goose-grease, Rozen, Pitch, and the marrow of a Hart. Also if one be troubled with swellings in his Temples or in his Legs, let him use of this sewet half a pound, and a pound of Capons-grease mixed therewith, and spreading it upon a cloth like a Sear-cloth, let him apply it to the sore, and it shall help mightily.

Also when the neck of an Ox swelleth, it hath been proved for a golden remedy, to take and anoint it with Goats-grease, liquid Pitch, the Marrow of a Bugle or Ox, and old Oyl, and may as well be called *Tetrapharmacum*, as that of *Galen* made of Wax, Rozen, Pitch, and Goats-sewer. Also if the blood be fallen into an Oxs legs, it must be let forth, or else it will breed the mangy; and therefore first of all the place must be cut with a knife, and then rubbed with clouts wet in Salt and Oyl, and last of all anoynted with old Sewer and Goats-grease.

Two ounces of this Goats-grease, and a pinte of green Oyl mixed together, and melted in a pot, and infused into one that hath the Bloody-flux, cureth him speedily: when the hot dung or fime of a Goat is mixed with Saffron, and applyed to the gowty members Hydropick, it worketh upon them a strange cure: and some adhere unto the stalks of Ivy beaten, Mustard-seed, and the flower of a wilde Cucumber.

The Liver of this Beast laid upon a man that hath been bitten by a mad Dog, causeth him never to be afraid of water: the same being sod, yeeldeth a certain liquor, and sore eyes being anointed with that liquor, within twelve times recover; and drunk in sharp Wine, and laid to the Navel, stayeth the Flux; also sod in Wine, no scum or froth being taken off from it, but permitted to joyn with it, helpeth the Bloody-flux.

The entrails of a Goat eaten are profitable against the Falling-sickness. The gall killeth the Leprosie, all swelling and botches in such bodies, and being mingled with Cheese, Quicksilver, and powder of Sponge, and made as thick as Honey, taketh away the spots and burls in the face. It also rooteth out and consumeth dead flesh in a wound, and also mingled with Bran and the Urine of a

Dioscorides.
Aetius.

Marcellus.

Albertus.

Pliny.

Dioscorides.

Marcellus.

Columella.

Rasis.

Galen.

Myrepsis.

Bull, cureth the scurffe in the head. *Aetius* also teacheth women how to conceive with childe, if she dip a purple cloth in Goats blood, and apply it to her Navell seven dayes, and afterward lie with a man in the prime and encrease of the Moon. The Gall of a wilde Goat is commended privately for the help of them that are purblind, and for all whiteness and Ulcers in the eyes: and when the hairs which trouble the eyes be pulled up, if the place be anointed with the Gall of Goats, the hair will never grow any more.

Marcellus. The Milt being sod, helpeth the Flux, and the Spleen taken out of the beasts belly, and applied to the Spleen of a Man, doth within short time ease it of all pain, if afterward it be hanged up in any fume or smoak to be dried. *Albertus* and *Rasis* say, that if a Man eat two Goats stones, and presently lie with his wife, she shall bring forth a male childe, but if he eat but one, then shall the childe have but one stone. The fime decocted with Hony, and laid to Ulcers and swellings, dissolveth or draweth them, and mingled with Vinegar, is most profitably used to take away black spots in the face.

Galen. And if he which is sick of the falling evill do eat thereof fifteen pills, or little bals, it shall procure unto him much ease. If it be mingled with Moufe-dung, toasted at the fire and sprinkled with Hony, and so anointed upon bald places, where you would have the hair to grow again, and mingled with Vinegar wherein a Sea-onion hath been steeped, and bound to the forehead or temples, aswageth the pain of the bran-pan.

Herodotus. The Pastoral *Carthaginians*, to the intent that the humour flowing out at their Childrens noses, may never hurt them, burn a vein in the crown of the head with Wool, when they are four year old, and thereby they conceive that they are kept and conserved in perpetuall good health: and if when they burnt their children, they fell into a Cramp, they eased them presently by casting upon them the urine of Goats. When a Man is thick of hearing, mingle together the Gall of an Ox, and the Urine of a Goat, and infused into the ears, although there be in them a very matterly substance.

Galen prescribeth this portion to evacuate that Water which lyeth betwixt the skin by Urine, if one drink Hysope water and the Urine of a Goat; Likewise it helpeth the Dropfie, and the dust of an Elephants tooth drunk in this Goats Urine, it dissolveth the stone in the reins and bladder, without all fearful peril and danger.

Pliny. The medicines arising out of the female Goat are these, We finde that the female Goat, and the land toad being sodden together, are cures of singular worth for the diseases of all living four-footed beasts. The (*Magi*, or) wisemen say, that the right eye of a green living Lizard, being taken out, and his head forthwith struck off, and put in a Goats skin is of a great force against quartan Agues. The ashes of a Goats hide besmeared over with Oil, taketh away the spots in the face. The same ashes made of a Goats hide, recovereth the blisters and galls of the feet. The shaving of the Goats skin being rubbed with Pumice stone, and mixed with Vinegar, is an excellent approved good remedy for the Smalpox.

Marcellus. If a Woman bleed overmuch at the nose, let her breasts be bound with a thong made of a Goats skin. The same being sodden with the hair on it, the juyce being soked up, stayeth the belly. It is not good for those that have the falling sickness to sleep or lie in a Goats skin, if at any time the passion moveth them to it; yet it is hurtful for their head, by reason of the rank smell, and not for any other particular private cause.

Pliny. Goats hairs being burnt, do appease all issues of blood, which being mixed with Vinegar they are good to stanch the bleeding at nose, and you may blow in their nostrils Goats hairs burnt and whole, and also Myrrhe mixed with Goats hairs so burnt. The same also burned and mingled with Pitch and Vinegar, helpeth the bleeding at nose, and being put in the nose they stir up lethargies.

Marcellus. The savour of the Goats horn, or of the hair doth the like, Goats dung in sweet water, doth expell the stone in the body, so doth the ashes of Goats hair in like manner, which being burned and bruised, and given in a medicine, they do mightily help and recover the Strangury. It is also reported that Goats horn and the hair being burnt, will drive away Serpents: and their ashes soked or anointed, is very good against strokes or stinging of Serpents.

Pliny. To stay the Flux in the belly, take the hairs that grow behind on the Goats sitting place, and burn them, which being tempered with beaten Barley and Oil, must be perfumed under a mans seat.

Hippocrates. Goats flesh being roasted by the fire where dead men are burnt, is good for those that have the Falling-sickness. The same is a good remedy against the falling sickness. It is good for such to abstain from Hogs flesh, Beef, or Goats flesh. They that drink Goats blood, wax pale presently on it, which is excellent to get out spots of any thing: it is also good against those that are intoxicate with poison, and therefore must be drunk with wine; and being sod with marrow, it is good against the same disease, so is the male Goats blood. The root of Cinkefoyle drunk in wine, helpeth ill humors. Goats blood also, either of the male or female, aswageth the inwards and the flowings or laskes of the belly: it is good for those that have the Dropfie, being tempered with Hony, and also sodden with marrow.

Pliny. Some use it against the Bloudy flux and pain of the belly, being also sodden with marrow, it is good against the same disease. If you mix Goats blood with Chisel steeped in broath, and a little Rosin put into it, whereof make a plaister, and lay it to the belly or other parts, and it recovereth any pain thereabouts.

The fat of a male Goat is more faster, and therefore good for those that have the Bloudy flux. The substance of a Goat is fat, yet is not the fat of a Goat so moist as a Swines, but for bitings, and those that are grieved in their belly Goats fat is better then Swines, not because it hath more operation in it to expell the grief, but by reason it is thick, whereas the Swines grease will run about like oil: neither is the fat of Kids so warm and dry as female Goats, neither the male Goats so fat as the gelded Goats, in *Latin* called *Hircus*; also female Goats fat is more binding then the Tallow of Oxen, but the males fat is good against Scorpions made in a perfume. It is also good for those that are poisoned with *French* green flies, called *Cantharides*. Being tempered with Wax, it taketh away the stinging of Serpents; it helpeth any biting or wound. If a Womans breast grieve her after her delivery of childe, let her see the husked Barley and Scallions, and the fat of a male Goat, whereof let her drink a little. Against the ache of the eyes, take Goats fat and Sheeps together, with a little warm water. Marcellinus.

Almost every grief of the body if it be no wound, will be more easily recovered by plaisters, but if the grief be as it were grounded, (or an old grief) let it be burned, and upon the place so scorched, put Butter or the fat of a male Goat; it will also recover and heal kibes and Chilblanes. It helpeth the Kings evill; so doth the fat of the female Goats help the same disease. The males fat mixed with *Arsenike*, taketh away the roughness of the nails: it also healeth the nails of the Leprosie without any pain, it expelleth the *Cantharidans* being applyed with the juyce of the Grape that groweth on a wilde Vine. This Goats fat is profitable to help any about the straightness of their mouths or lips, being tempered with wax it allayeth Sores and Blisters, and with Pitch and Brimstone it healeth them, and being applyed with Hony and the juyce of a Brambel, it cureth the swellings arising in the hands or fingers, especially in curing of Fellons. Galen.

The fat of a Bull well salted, or if it be in an ach or grief, dipt in oil without Salt, and so after the same manner is the male Goats fat used, which being tempered with Roses, taketh away the wheales or blisters that rise in the night: being also dropped into the ears of one that is deaf, it recovereth him. Columella.

It helpeth the Falling sickness, putting thereto as much of the gall of Bulls, just of the same weight, and see the it together, and then lay it in the skin of the gall that it touch not the ground, and drink it out of the water. It is also good against the stinging of Scorpions, being applied with Butter and the meal of *Zed*, warmed and washed with red Wine. Pliny.

The broath that is confected of Goats fat sodden, is excellent for those that are troubled with the Ptsick, to sup now and then a few; also it helpeth the Cough being tempered with new sweet wine, that an ounce may be put in a goblet, and so mixed with a branch of Rue. It being also sodden with husked Barley, easeth those that have fretting in the guts. Æsculapius.

The same also sodden with Barley flower and Wine made of Pomgranates and Cheese, let it be given to those that are troubled with the Bloudy flux, and let them take it with the juyce of husked Barly. Dioscorides.

Rasis also saith, that the fat of a fierce Lion is of such singular account, that if a Glyster be made of it, with the water of Barly sod, either with the water of tosted meal, and boyled *Sumach*, and so dissolved with Wax, it is a most pretious remedy for the swelling of the inwards. But Goats fat doth much help the griefs of the inward parts that nothing cometh forth but cold water. The fat of the Buck Goat many use (being sod with bread and ashes) against the Bloudy flux; and also the She Goats fat being taken out of her back alone being a little cold, and then supped up: Other allow the fat to be sodden with Barly flower, Cinnamon, Annise, and Vinegar mixed together. The same fat taken so out of the back mixed with Barly, Bran, and Cinnamon, Annise, and Vinegar, of each of them alike, and see the thereof, and being strained give it the patient that is diseased with the Bloudy flux, and it shall most speedily help him. Marcellus.

The same also mixed with Pellitory and Cyprian Wax, may be laid to the Gowt. Also sodden with Goats dung and Saffron, and layed on the Gowt it asswageth the grief. Dioscorides.

The marrow of the female Goat, in the fourth place next after the marrow of the Hart, the Calf and the Bull is commended of *Dioscorides*, but the last of all is the Sheeps fat. The Harts is most renowned of all, next the Calves, then the Buck Goats, and last of all the female Goats. To help the grief of the eye, take the marrow of Goats and anoint your eyes, and it will cure them. Goats bloud sod with marrow may be taken against all toxical poison. Pliny.

Pliny saith, that their dung being anointed with Hony, is good for the watering or dropping of the eys, and their marrow against aches. The bloud of Goats, their marrow, and their Liver, is very good to ease the belly. Goats bloud sodden with the marrow, helpeth the Bloudy flux, and those that have the Dropsie; and I think that the Bucks is more effectual and of greater operation, so it be eaten with Mastick. Also the Goats marrow is good for the eyes of Horses. Marcellus.

The right horn of a Goat is of some held to be of more effect then the other, which I rather hold to be superstitious; whatsoever other reason or secret quality the Horn may afford, for the bitings of Serpents, take Goats horn and burn the hairs of them, and the ashes of them soked in water, and Goats milk with the horn, and wilde Marjoram, and three cups of Wine put together, and being drunk against the stinging of an adder expelleth the poison. Pliny.

The ashes of Goats horn being all anointed with Oil, tempered with Mirtle, stayeth the Sweating of the body. Harts horn and Goats being burned, and (if it be requisite) is good to wash the teeth withal. Sextus.

Pliny. withal, and it will make them look white, and the gums soft. It is also good against the Bloudy flux and watering of the eyes in regard they are most usual; yet they neither assuage the griefes nor consume them, which are of a cold and dry nature.

Galen. Harts horn being burnt as also a Goats horn, taketh away bitings. Goats dung or the horn being burnt to ashes, and dipped in Vinegar, stoppeth the bloud. The corrupt bloud that cometh out of a Buck Goat, is more effectual and of a better operation; and the ashes of a Goats horn or dung sod in Wine or Vinegar, and anoint the Nostrils, stayeth bleeding at the Nose.

Pliny. Goats horn being burned at the end, and the pieces or scorplings that arise thereof, must be shaken into a new vessel untill the horn be quite consumed, then beat and bruise them with Vinegar made of Sea-onions, and anoint the evill called Saint Anthonies fire; and it is of a miraculous operation.

Sextus. It will make one sleep that is troubled with the weakness of his head and watching, if it be laid under their pillow. It being mixed with Bran and Oil of Mirtle, it keepeth the hairs fast that are falling off the head. The savour of the horn burned descrieth the Falling sickness; so doth the smell of the intrails of a Goat or the Liver eaten; likewise it raiseth up a Lethargick man. They use also the horns of Harts and Goats to make white the teeth, and to fasten the gums. The same shorn or shaven into mixt hony, represseth the flux of the belly. In the pain of the belly perfume the shavings of the same, mingled with Oil and burned Barly; the same perfume is good to be laid upon the Ulcers of Horses.

The hoofs of Goats are prescribed by *Palladius* to be burned for the driving away of Serpents, and the dust of them put into Vinegar cureth the *Alopecias*. The dust of their hoofs is good to rub the teeth withall, also to drive away the swellings in the disease called St. Anthonies fire, burn the foot of the Goat with the horn, and reserve the dust thereof in a box, and when you will use it, wet the place first with Wine, and afterwards cast on the powder.

The juice of a Goats head sod with hair, is commended for burstnes in the belly, and the ancient Magicians gave the brain of the Goats to little infants against the Falling sickness, but pressed through a gold Ring, the same cureth Carbunkles in the belly being taken with Hony.

If the body or head be rubbed with that water or meat which falleth out of the mouth of a Goat, mingled with Hony and Salt, they kill all kinde of Lice, and the same thing giveth remedy to the pain of the belly, but if it be taken overmuch it purgeth. The broth of the entrails to be gargarized in the mouth, cureth the exulceration of the tongue and arteries.

Galen. The Liver of the female Goat sod and eaten, is given against the Falling evill, and taketh from them Convulsion, and with the liquor thereof, after it is sod, it is good to anoint the purblind eyes, also it is good to hold the eyes open over it while it seetheth, and to receive into them the fume, and the reason hereof is, because Goats see as perfectly in the night as in the day time, and therefore *Celsus* saith, that this medicine is most agreeable to them that cannot see at all in the night, as it hapneth to Women whose monethly courses are stopped, and then it is good for them to anoint their eyes with the bloud of a Goat, and eat the Liver sod or roasted. The powder of the Liver burnt purged and drunk in Wine cureth the Colick.

Trallianus. If a woman in travel or with childe be swollen up, let her take a Goats liver rowled in warm ashes, and let her eat it in four dayes, and drink old wine thereunto, so shall she be delivered. The Gall is contrary to all poisoned Witch-craft made upon the rustick Weasil; and if the Kings evill be daily touched therewith at the beginning, it will keep it from overspreading, and with beaten Alum it disperseth Scabs. The old Magicians were wont to say, that when a Man rubbed his eyes when he lay down, and put it underneath his pillow, he should sleep soundly; it driveth away scabbes in the head if it be mingled with Fullers chaulke, so as the hairs may be dry a little; and the same with Hony helpeth the eyes, according to the saying of *Serenus*:

Hyblai mellis succi cum felle caprino.

Subveniunt oculis dira caligine pressis.

Marcellus. The Physitians in application hereof to the cure of eyes take many wayes, and mixe it with other drugs, as when they give it against whiteness in the eyes with Hellebore, against wounds and Pin and Webs with Wine; and against the broken tunicles with a womans milk, and therefore *Rasis* and *Albertus* do justly call the Gall of a Goat an Eye-salve, and also being instilled into the ears when they are full of pain, it cureth them, first mingling it with a scruple of Hony in an earthen sheard, and so infusing into the ear, and shutting it in with a little wool.

Also all the pains in the ears are cured by the stalkes or juyce of Leeks, Gall of Goats, and sweet water; and if there be any Rupture in the ear, then use therewith a womans milk, or warm Oil of Roses: likewise against the Cankers in the gums, and the Squinancy, it is profitable to use it with Hony. For all tumors or swellings in the neck, take equal quantities of this Gall, of Goose-grease, and the yolk of an Egge, and these being all mingled together, let the offended place be rubbed therewith.

Marcellus. The same with the juyce of *Cyclamine* and a little Alum looseneth the belly, and Wool being well dipped therein and bound to the Navel of the belly, expelleth the Worms, it cureth the faults in the fear by anointment; it also hath another virtue in it expressed by the Poet in this Verse;

Languidus

*Languidus antiquo purgatur penis Iaccho,
Ac super illinitur secunda felle capellæ.*

The melt sod cureth the Bloudy-flux, and the bladder burnt and given in posset-drink is good for them that cannot contain urine in their sleep, and the secunds of a female Goat being drunk in Wine of women after their delivery, ejecteth and casteth forth their secunds also. The milk is many ways available, for *Democrates* the Physitian, in the recovery of *Confidia* the daughter of *Servilius*, which had been Consul, used the milk of Goats a long season which he fed with Lentils: Sea-crabs mixed with this milk, expelleth poyson; and the first milk of a Goat which is milked from her after the weaning of the Kid, drunk by him that hath a quartane Ague, easeth the fits thereof. And some of the ancient Physitians gave as much dung of Swallows as will ly upon three groats, mixed with this milk against a quartane Ague, and when young Lambs were sick, the shepherds cured them by infusing into their chaps the milk of Goats; the powder of Betony drunk out of Goats milk stayeth bleeding.

*Sextus.
Pliny.*

*Columella.
Pliny.*

The holy fire is a disease of Sheep almost incurable, because if any remedy do but touch them, they fall mad: but they only in this malady admit for the recreation or remedy Goats milk. The root of the greater Siler decocted in Goats milk, cureth those cold stiffnesses in the flesh or belly, when the place looketh black or loseth sense: and *Aesculapius* taught his followers and patients to drink it against the Itch, or any biting, and if at any time there be any strain in any member of the body, so that the Article seemeth to decline and lose his former strength and humor, it is recovered again by binding unto it Lyne-seed sod in Goats milk. *Funerius* adviseth to wash the face therewith, that the beauty of it may be more splendant. Take seven Sea-crabs, and being beaten to powder, mingle them with one pinte of Goats milk, and a cup of Oyl, and so strain them diligently, and infuse them into a Horses mouth which is sick of the Head-ach, and it shall cure him.

The milk also by the counsel of *Philistion*, with the juyce of Cabages, Salt, and Hony, is given against the shortness of breath; and if the right eye of a *Chameleon* be pulled out of her alive, and put into Goats milk, and applyed to the eyes, it cureth the whiteness of the eyes.

The fat of a Bull mixed with this milk, and infused into the ears, cureth their mattery evils, and causeth them to hear more assuredly and firmly. The gums of children anointed therewith, causeth their teeth to come forth with less pain, and fasteneth the loose teeth by often rubbing: the corners in the throat, and the Arteries are delivered from exulcerations by gargarizing this milk, either warmed at the fire, or else as it cometh forth of the udder.

The seed of Cresses decocted in this milk, and drunk, easeth the pains in the stomach, and also purgeth being mixed with Salt and Hony. *Marcellus* prescribeth this excellent purgation, which shall never make the party sick, that is a pinte of Goats milk, two ounces of salt Ammoniack, and one ounce of the best *Mecis*, beat them all together, and give them to the patient fasting, and so let him walk a good while, till the medicine be wrought in his body; and if a woman be with childe, and oppressed with Head-ach, or have an Ague, she may safely take this milk sod with Hony.

*Pliny.
Marcellus.*

Hippocrates.

The Physitians make a special drink of this milk, which they call *Schiston*; it is sod in a new earthen pot, and hath put into it the branches of a fig-tree, and so many cups of sweet water, as there were pintes of milk, and when it boyleth, keep it from seething over, by putting into it a silver vessel with cold water, & being taken from the fire, divide it into many vessels till it be cold, so the whay will part from the milk: and some take the whay and seethe it again till the third part be only left, and afterward set it abroad in the Sun to cool, and this may be safely drunk five days together (every day a pinte) at five several times, against the Falling evil, Melancholy, Palsies in Leprosies, Gouts or pains in the Articles, and the sickness of the Liver, which is like to a Pleuresie. Or let him drink the Goats milk, the third part thereof mingled with Hony (as *Hippocrates* prescribeth) or with the seed of *Matrum*, (as *Serenus* counselleth) in this verse:

*Stomacho medentur
Semina Matris facie cum lacte capella.*

A draught of Goats milk sodden with Mallows, and a little Salt put to it, represseth the gripings of the belly, and if you put a little Rennet unto it, it will be more profitable. Goats milk tempered with Rennet, before it be altogether strained, while it is warm, it must be given to those that have the Bloudy-flux to drink, and it will help them presently: put also to a good potion of sweet Wine mingled with Goats milk, and a little Rennet of a Kid (as much as a Nut-kernel is) which being tempered with the hand, let it be given to the patient, labouring with the Bloudy-flux, before it be strained, for the space of three days. Let this drink be given one that is fasting about the time he riseth, and being boyled, put sufficient-Barley flowre to it, and being in like manner like pap or pottage, you must give it to the patient to drink for the same disease.

Pliny.

Marcellus.

Marcellus.

Pliny.

Goats milk being sodden half away, may be given to those that have the Bloudy-flux. If they that be troubled with fretting of the guts, and the Flux, are weakened by reason of their often going to the stool.

The broath of a fat Hen sod with Butter or Goats milk, or Sheeps, warmed by it self, or else sod with Butter, is very good to be given unto them. Take three ounces of *Amylum*, being a kinde

of

Marcellus.
Dioscorides.

of meat, three moneths old, into as much Goats milk sod as you shall think fit, and so give it the patient by suppository means for the Bloudy-flux. Oxen, Sheeps, or Goats milk, stayeth the exulcerations and flowings of the belly, so it be sod on the coals, after the use of glysters, if a mans secret inwards do bound with filth, but if not, after the foment be laid to the roots and stock of the yard, fresh Goats milk must be applyed about the measure *Hemian*, and no less, but it must not be done all together, but apart. The next day let the milk seethe till the one half be diminished, still taking away that which is uppermost (I mean the skin or froth that gathereth in setting) and so use it.

Aetius.

For the risings and flowings of the belly and the Flix, it is very good to get Cows milk or Goats, as is before mentioned of the Cow. Panick being sod in Goats milk, helpeth the belly, being taken twice a day, and so it is good for the fretting of the guts. Old bread tempered with Goats milk, being given those that have the Flux in their belly twice a day, in manner of supping, it is a present help.

Pliny.

The juyce of planted pease, soaked with Goats milk, helpeth the lask of the belly. The milt is good with Goats milk, after one hath fasted two days, let him drink Goats milk, that are fed with Ivy, without any other kinde of meat, for three days together.

Pliny.

They that are troubled with the pain in the milt, the best remedy is this: let milch Goats be kept fasting three days, and in the third day let him eat Ivy only, and let them be milked before they drink; and let the fasting patient grieved about his milt, take three Sextaries warm of that milk, so soon as she is milked, and so let him drink it the space of three days, during which time he shall not eat nor drink any other meat, and it shall help him marvellously. He that hath the Consumption of the Spleen, let him drink the whay of Goats that are fed with Ivy. Goats milk also half sodden, so it be of them that feed on Ivy only, it may be given to children that are troubled with the pain in the milt. A drink made of Goats milk and rennet put to it (as Cheefe is accustomed to be made) and given to those that have the Dropsie, they shall be holpen. Also Goats milk killeth the Worms.

Marcellus.

Æsculapius.
Sextus.

Those that are troubled with the grief of the reins, let them take three cups of Cretian sod in Wine, and so much of Goats milk, and three and thirty grains of Cowcumber-feed, all well bruised together, which he may drink at one draught. *Anatolius* saith, that a porrenger full of Goats milk, with as much *Amylum*, which is as much as three porrengers of Sheeps milk, and three ounces of Oyl, all which well tempered together, must be given through a horn to a Horse that pisseth bloud, and it will remedy the same: and *Polygonius* saith, that Goats milk and *Amylum*, with three Egges and the juyce of Pellitory, is good for the same disease in Horses. The meal of Betony soaked out of Goats milk, stayeth the bloud dropping out of the paps. Physicians do drink certain medicines made of Goats milk that increase *Venus*.

Anatolius.

Pelagonius.

Pliny.

Marcellus.

The men of *Thessalia* drink another root of a certain herb (called *Orchim*) being softer and nothing inferior with Goats milk to stir up men to carnal copulation, and they drink the harder kinde of root so tempered to stay it. The root *Ragwort* (as some call it) being given to women with childe, it maketh them that they cannot conceive, being of watery condition: against which Goats milk soaked with Honey, is an excellent remedy.

Sextus.

Innominatus.

If the hinder parts that are somewhat fleshy stand further out then the rest, and open, anoint them with Goats milk warmed. If any mans Sheep be sick, let him take Goats milk mingled with Wine, and so let him give it them to drink. If Lambs be troubled with Agues or sickness, let Goats milk be given them through a horn.

Columella.

Cheese made of Goats milk is an excellent help for those that have drunk Miselden. For other bitings of Beasts, (besides that of a mad Dog) Goats Cheese well dried with wilde Marjoram must be drunk. The same also is excellent against the stinging of Serpents; for all other bitings and stings of lesser Beasts, it is also a very good remedy. Being dried out of Vinegar and Honey, taketh away Ulcers and Blisters.

Serenus.

Pliny.

Æsculapius.

Pliny.

This same Cheese when it is new, so it be well pressed, and no whay left in it, and mixed with Honey, is most excellent against the quartain Ague. Goats cheese also repreffeth all dolours and punctions; and being soft and new, and made with Honey, and covered with a woollen or linnen cloth, taketh away the puffing up of the flesh. It being dried with scallions, you may anoint Saint Antonies fire with it. Being dried out of Honey and Vinegar, (when men do bath) without Oyl it may be anointed on black wheals. That which is fresh and well riwated, being laid on the eyes, it quickly asswageth the pain. It is also exceeding good for the pricking of the eyes, the grief of the head and feet, it is also good for the dropping of the eyes, with a little warm water applyed unto it, and if it be a swelling of the eyes, then out of Honey, either of which griefs is to be kept warm with whay.

Pliny.

For the grief of a mans Yard, seethe Goats Cheese and Honey, of a like quantity in a Poultefs made in a new earthen pot, and so laid thereunto twice a day, but first wash the place with old Wine that is to be cured. It is good for Carbuncles; and if a woman be sick of her womb, and troubled with a Fever, let her take half a *Chanix* of Pettispurge, and so much Nettle-feed, and half a *Chanix* of Goats Cheese scraped, being tempered with old Wine, and afterward being sodden, let her sup it up, and if she have the Flix, let her drink the black wilde Grape, and the rinde of a Pomgranate, and a Nut-kernel, and the rennet of a Bull, these being washed in black Wine, Goats Cheese, and Wheat-flower, put them together.

The fime or dung of fuch Females as live in the Mountains drunk in Wine, cureth the Falling evill; *Dioscorides.* and in *Galens* time they gave the trindles of Goats in Wine againſt the Jaundife, and with the fime they anoint them that have the Flux, and made into a Poultice, is very helpful againſt the Colick; but *Marcellus* prepareth it on this manner: firſt it muſt be ſteeped in water and ſtrained, with fixty grains of Pepper, and three porringers of Sweet water, and ſo divide it into three equal potions to be drunk, in three ſeveral days: but the body of the patient muſt be firſt waſhed or anointed with *Acopus*, ſo as all perfrictions by ſweat may be avoided.

Aetius againſt the hardneſs of the Spleen, preſcribeth a plaſter made of Goats dung, Barley meal, and the dung alone againſt all tumors or ſwellings of the milt. Againſt water lying betwixt the ſkin, and the ſkin and the fleſh this is prepared many ways, and firſt againſt the Dropſie, they ſeethe it the in urine of a Boy which hath taſted of poyſon, or in the Goats urine, till it be as thick that it will ſtick and cleave, and it will purge all by the belly, and alſo the ſhavings of hides which Coriers make, ſod in Vinegar with Goats dung is accounted in *England* a ſingular medicine to repreſs all hydropick ſwelling in the legs and belly. *Archeigenes.*

The fime of Female-goats drunk in ſweet water expelleth the Stone out of the Bladder. Againſt the pain in the hips, the *Arabians* preſcribe it in this manner, which they call aduſtion (betwixt the thumb and the hand) there is a hollow place wherein they put Wool dipped in Oyl; afterward they ſet on fire little piles of Goats dung in the ſame Wooll, and there let it burn till the ſume and vapour thereof be ſenſibly felt in the hip-bone: ſome uſe to apply this to the fat, but in our time it is all out of uſe, and ſeeing yet the pains of the hip do rather fall into the thighs, ſhins and legs, then aſcend up into the Arms and ſhoulders, *Aetius* and *Cornarius* ſay, that this aduſtion for the hips was uſed in the ancient time divers ways, and ſome on this manner, holding the burning dung in a pair of tongs unto the leg of that ſide where the pain lyeth, untill the aduſtion be felt in the hip, and this courſe uſed *Dioſcorides.* *Pliny.*

Quintilius uſed another way, which was this: he firſt of all heat the Goats dung, and therewithall burned the ſoft and fleſhy part of the great toe, neer unto the nail, untill it pierced to the ſick place; after ſuch uſtions, they lay beaten leaves of Leeks with Salt to the place, but in the hard bodies of Country men inured to labour, they apply the Dung of Goats with Barley meal and Vinegar.

The ſame with Saffron and Goats ſewet, applyed to the Gowt, healeth it; or elſe Muſtard-feed, ſtalks of Ivy, Bettony, or the flower of Wilde-cowcumber, the ſame drunk with Spikenard, or other Spice, ſtirreth up a Womans flowres, and cauſeth eaſie deliverance, but being beaten into Meal and Vinegar, and laid to a Womans belly, with Wooll and Frankincenſe, ſtayeth all Fluxes and Iſſues: alſo little bals of the ſame with hairs, and the fat of a Sea-calf, wrought al together and perfumed under a woman, hath the ſame effect, or elſe the liver of a Sea-calf, and the ſhavings of Cedar-wood.

Pliny affirmeth, that the Mid-wives of his time ſtayd the greateſt Flux of the belly by drinking the urine of a Goat, and afterwards anointing it with the dung of a Horſe that hath bruised his hoof; Goats bloud with Vinegar cureth the ſame, and if an Aple-tree have worms in it, the dung of a Goat and the urine of a man laid to the root drive them away. *Vegetius.* *Anatolius.*

The urine of Goats bloud drunk with Vinegar, reſiſteth the ſtinging of Serpents, and alſo being laid to bunches and ſwellings in the fleſh, in what part ſoever they be, it diſperſeth and expelleth them. Againſt the ſtiffneſs of the neck, which they call *Opithorinus*, take urine of a Goat, and the heads of Scallions bruised to juyce, and infuſe them into the ears; and the ſame mingled with the Oyl of Roſes and a little Nitre, cureth the pain in the ears by infuſion, or by the ſmoke perfumed in a Goats horn twenty days together.

Againſt natural deafneſs take the horn of a Goat newly ſlain, and fill it with urine, and hang it up nine days in the ſmoke, and afterwards uſe it. The urine of a Goat made warm, and inſtilled into the ears, and the fime anointed with fat, is good for the veins of the throat. For the Dropſie drink one ſpoonful mingled with *Carduus*, and warm it at the fire: alſo mingled with Wine or Water, it expelleth the Stone in the Bladder, according to the ſaying of *Serenus*: *Gallus.*

Nec non obſcænus capræ potabitur humor;

Obruit hic morbum tabeſcenteque ſaxa remittit.

The ſame Phyſician preſcribeth Goats trindles to be drunk in Wine againſt the Jaundife, and to ſtay the fluxes of women, the ſame dung tyed in a cloth about unquiet children, eſpecially women-kinde, maketh them more ſtill; being mingled with Wine, cureth the bitings of Vipers, and the dung taken out of the Goats belly and anointed upon the ſore, cureth it with all ſpeed: the ſame vertue it hath to heal men wounded by Scorpions, being decocted in Vinegar, it cureth alſo the biting of a mad Dog, mixed with Honey and Wine.

Being laid upon a Wound it keepeth it from ſwelling, it hath the ſame vertue mingled with Barley meal, but healeth the Kings evill. It is uſed alſo to ripen ſores and ruptures, being applyed to the ſuppurations, it keepeth down the ſwellings of womens breſts, being firſt dried, and then ſteeped in new Wine, and ſo laid to the ſore, for it digeſteth inflammation.

When the eye-lids be thick, hard, red and bald, take Goats dung and Mouſe dung, of either a like quantity burned, and twice ſo much of the powder of the *Græcian* canes, with Honey Attick; and anoint

anoint them therewith; being heat with Vinegar, and put upon the sore, it cureth Tettors and Ring-worms, and disperfeth Carbuncles in the belly: also being heated in Vinegar with Cow milk, Oyl of Cipress and Laurel, it purgeth and cureth all wounds of the legs and shins, it pulleth out thorns or sharp pricks out of the body, as that learned Physitian *Myiæ* hath proved, as Sheeps dung also doth: laying it round about the wound, it cureth burnings and draweth out heat, with Oyl of Roses and Vinegar (as *Galen* writeth.)

It is also commended for broken joynts, because it suffereth them not to swell or start out, being once set, therefore it must be used with Honey and Wine, and it hath the same operation for broken ribs, for it openeth, draweth and healeth: also it being decocted with Vinegar, it healeth the pains in the nerves, although they be ready to rot, and easeth the pain in the joynts: the fime of a fat Goat cureth the Gout, and the contraction or shrinking of the nerves, being dressed with Vinegar, and made as thick as Honey, it helpeth the trembling members. It is very dry, and therefore (*Arnoldus* saith) it cureth the Fistula, making a plaister thereof with the meal of Beans, Wine and Leigh, which hath been seen wonderfully to dry up the Fistula. With Oxyssel and Vinegar it cureth the *Alepius*, but it must be burned.

Take seaven bals of Goats dung, work them in Vinegar, then anoint your fore-head therewith, and it easeth the pain in the head, or else mingle it with Oyl of Roses, and spread it upon a cloth laying it to your temples, change it morning and evening, and you shall finde great ease thereby.

If the eyes be swoln at any time, binde this dung unto them: being mingled with liquid pitch and Honey, healeth them which are sick of the Quinsie; being gargarized in the mouth, he which is sick of an old Cough, let him take the dried trindles and put them into the best Wine, and drink it off, so shall he presently avoid his fleam and filthy humor, and be healed.

The Remedies out of a Wilde Goat.

The same vertue which are in the Goats before spoken of, do also belong to the wilde Goats, the blood taketh away bunches in the flesh; and being mingled with Sea-palm, causeth the hair to fall off. An Ointment made of the fat of Goats, is profitable to them which have webs in their eyes; and the fat of Mountain Goats, helpeth infected Lights: His liver broiled upon coals and taken alone, helpeth the Flix, but most certainly when it is dried and drunk in Wine: the gawl is good for many things; especially it is a Treacle against poyson, suffusions, whiteness and blindness of the eyes, by anointing, it cureth the purblinde and the webs in the eye; and generally it hath the same properties in every part as the tame Goats before spoken of.

The like may be said of the Kids or young Goats, and first of all a Kid being slit asunder alive, and his warm flesh laid to a poysoned wound, doth most assuredly heal the same. Others take the warm flesh of Kids and perfume them with hair, by the savour whereof they drive away Serpents: the skin newly pulled off, and put upon the body beaten with stripes, taketh away their pain: others again use it against the Cramp; and not without reason, for the tender skins of Lambs & Goats, being sprinkled or dipped in warm Oyl, giveth very much strength and patience to endure the Convulsion.

Praxagoras prescribeth the flesh against the Falling evil; and by gargarizing the broath when it was sod, cureth the Quinsie and soreness of the throat. *Demetrius* saith, that the brain being drawn through a gold ring, and given to a Hawk which hath the Falling sickness, it will work admirably upon her. The blood being dried and decocted with marrow, is good against all intoxicate passions, and being mingled with sharp Vinegar before it be congealed, it helpeth the spitting of blood: the same being eaten, cureth all kinde of Flixes, being taken three days together. *Galen* rehearseth in the Antidote of Urbane, among other things, the blood of Kids to draw the dead young ones out of the Dams belly.

With the fat there is an Ointment made with Rose water, to heal the fissures of the lips and nose, which is much desired of Women, not only for the before rehearsed vertue, but also because by anointing they keep by it their face from Sun-burning. The French and Italians call it (*Pomato*) because it smelleth like Apples, they put also into it Musk and Rose water, a pound of Kids sewer, and warm it in a Bath untill all be white, and so wash it with the said Rose water, and afterward repose it in a glass: The Ointment which is called (*Unguentum album*) is like unto it: the ashes of the thighs of a Kid, healeth burstness, and stancheth blood: the rennet is also commendable against Hemlock, or Toad-stool, and against all the poysonful strokes of Sea-beasts; being drunk in Wine, it stayeth bleeding, and refresheth excretions of blood; being taken with Vinegar it helpeth also the flix; being drunk fasting, it hath some operation to stay womens flowers. The lights of a Kid sod and eaten fasting, preserveth from drunkenness that day; and the powder of it burned, easeth the itching of the eyes, and peel'd eye-lids, if it be applyed like *Stribium*: likewise the bladder of a female Kid drunk in powder, helpeth the inconstancy of urine: the milt laid upon the spleen of an infant, asswageth the pain and tumors thereof; the liver is not fit for temperate men, but for weak cholerick men.

The Inhabitantes of the Mount *Atlas* do gather *Euforbium*, and corrupt it with Kids milk, but it is discerned by fire; for the good *Euforbium* being burned, yeeldeth an unacceptable savour, and so we conclude this story, with the two Emblems of *Alciatus*. One against them that take much pain, and make good beginnings, but evill ends, like a Goat which giveth a good mess of milk, and over-turneth it with her foot:

Quod

*Quod sine egregios turpi maculaveris orsus
Innoxamque tuum verteris officium,
Fecisti quod Capra sui mulctaria latetis
Cum ferit, & proprias calce profundit opes.*

The other Emblem is upon a Goat, the which by her Keeper was constrained to give a young Wolf suck, who afterward notwithstanding that good turn, devoureth his Nurse: and it may be applyed unto them which nourish their own harms, and save a thief from the gallows.

*Capra lupum nen sponte meo nunc ubere lacto,
Quod male pastoris provida cura jubet:
Creverit ille simul, mea me post ubere pascit:
Improbis nullo flectitur obsequio.*

There is a pretty comparison of a Harlots love to a fisherman, which putteth upon him a Goats skin with the horns, to deceive the *Sargus*-fish, for that fish loveth a Goat above all other creatures, and therefore the fisher-man beguileth her with a false appearance, as the flattering love of Harlots doe simple mindes by fained protestations.

Of the GULON.



THIS Beast was not known by the Ancients, but hath been since discovered in the Northern parts of the World, and because of the great voracity thereof, it is called (*Gulo*) that is, a devourer in imitation of the Germans, who call such devouring creatures *Vilfuss*, and the Swedians, *Gerff*; in Lithuania and Muscovia, it is called *Rossomokal*. It is thought to be engendered by a Hyena and a Lioness, for in quality, it resembleth a Hyena, and it is the same which is called (*Crocota*;) it is a devouring and an unprofitable creature, having sharper teeth then other creatures. Some think it is derived of a Wolf and a Dog, for it is about the bigness of a Dog: it hath the face of a Cat, the body and tail of a Fox; being black of colour: his feet and nails be most sharp, his skin rusty, the hair very sharp, and it feedeth upon dead carcases.

When it hath found a dead carcass he eateth thereof so violently, that his belly standeth out like a bell; then he seeketh for some narrow passage betwixt two trees, and there draweth through his body, by pressing whereof, he driveth out the meat which he had eaten: and being so emptied returneth and devoureth as much as he did before, and goeth again and emptieth himself as in former manner; and so continueth eating and emptying till all be eaten. It may be that God hath ordained such a creature in those Countries, to expresse the abominable gluttony of the men of that Countrey, that they may know their true deformed nature, and lively ugly figure, represented in this Monster-eating-beast: for it is the fashion of the Noble men in those parts, to sit from noon till midnight, eating and drinking, and never rise from the table, but to disgorge their stomachs, or ease their bellies; and then return with refreshed appetites to ingurgitate and consume more of Gods creatures: wherein they grow to such a height of beastliness, that they lose both sense and reason, and know no difference between head and tail. Such they are in Muscovia, in Lithuania, and most shameful of all in Tartaria.

These things are reported by *Olavi Magnus*, and *Mathias Michou*; But I would to God that this same (more then beastly intemperate gluttony) had been circumscribed and confined within the limits of those unchristian or heretical-apostatical countries, and had not spread it self and infected our more civil and Christian parts of the World: so should not Nobility, Society, Amity, good fellowship, neighbourhood, and honesty, be ever placed upon drunken or gluttonous companions: or any man be commended for bibbing and sucking in Wine and Beer like a Swine: When in the mean season no spark of grace, or Christianity, appeareth in them: which notwithstanding they

they take upon them, being herein worse then Beasts, who still reserve the notes of their nature, and preserve their lives; but these lose the marks of humanity, reason, memory and sense, with the conditions of their families, applying themselves to consume both patrimony and pence in this voracity, and forget the Badges of Christians, offering sacrifice to nothing but their bellies. The Church forsaketh them, the spirit accurseth them, the civil world abhorreth them, the Lord condemneth them, the Devil expecteth them, and the fire of Hell it self is prepared for them; and all such devourers of Gods good creature.

The kinds of
Gulons.

To help their digestion, for although the *Hiena* and *Gulon*, and some other monsters are subject to this gluttony, yet are there many creatures more in the world, who although they be Beasts and lack reason, yet can they not by any famine, stripes, or provocations be drawn to exceed their natural appetites, or measure in eating or drinking. There are of these Beasts two kinds, distinguished by colour, one black, and the other like a Wolf, they seldom kill a Man, or any live Beasts, but feed upon carrion and dead carcases, as is before said; yet sometimes when they are hungry, they prey upon Beasts, as Horses, and such like, and then they subtilly ascend up into a tree, and when they see a Beast under the same, they leap down upon him and destroy him. A Bear is afraid to meet them, and unable to match them by reason of their sharp teeth.

The skins of
Gulons.

This Beast is tamed, and nourished in the Courts of Princes, for no other cause then for an example of incredible voracity. When he hath filled his belly, if he can finde no trees growing so near together, as by sliding betwixt them, he may expel his excrements; then taketh he an Alder-tree, and with his fore-feet rendeth the same asunder, and passeth through the midst of it, for the cause aforesaid. When they are wilde, men kill them with bows and gins, for no other cause than for their skins which are precious and profitable; for they are white spotted, changeably interlined like divers flowers; for which cause the greatest Princes, and richest Nobles use them in garments in the Winter time, such are the Kings of *Polonia*, *Smeveland*, *Goatland*, and the Princes of *Germany*; neither is their any skin which will sooner take a colour, or more constantly retain it. The outward appearance of the said skin is like to a damaskt garment, and besides this outward part, there is no other memorable thing worthy observation in this ravenous Beast, and therefore in *Germany*, it is called a four-footed Vulture.

The countrey
and description.

Ælianus.

Of the *GORGON* or strange *Lybian* Beast.

AMong the manifold and divers sorts of Beasts which are bred in *Africk*, it is thought that the *Gorgon* is brought forth in that Countrey. It is a fearful and terrible beast to behold, it hath high and thick eye-lids, eyes not very great, but much like an Oxes or Bugils, but all fiery-bloudy, which neither look directly forward, nor yet upwards, but continually down to the earth, and therefore are called in *Greek*, *Catobleponia*. From the crown of their head down to their nose they have a long hanging mane, which make them to look fearfully. It eateth deadly and poysonful herbs, and if at any time he see a Bull or other creature whereof he is afraid, he presently causeth his mane to stand upright, and being so lifted up, opening his lips, and gaping wide, sendeth forth of his throat a certain sharp and horrible breath, which infecteth and poysoneth the air above his head, so that all living creatures which draw in the breath of that air are grievously afflicted thereby, losing both voyce and sight, they fall into lethal and deadly Convulsions. It is bred in *Hesperia* and *Lybia*.

The Poets have a fiction, that the *Gorgones* were the daughters of *Medusa* and *Phorcynis*, and are called *Steingo*, and by *Hesiodus Sibeno*, and *Euryale*, inhabiting the *Gorgadian* Islands in the *Æthiopick* Ocean, over against the gardens of *Hesperia*. *Medusa* is said to have the hairs of her head to be living Serpents, against whom *Perseus* fought, and cut off her head; for which cause he was placed in Heaven, on the North side of the Zodiack above the Waggon, and on the left hand, holding the *Gorgons* head. The truth is, that there were certain *Amazonian* women in *Africk*, divers from the *Scythians*, against whom *Perseus* made war; and the Captain of those Women was call *Medusa*, whom *Perseus* overthrew, and cut off her head, and from thence came the Poets fiction, describing it with Snakes growing out of it as is aforesaid. These *Gorgons* are bred in that Countrey, and have such hair about their heads, as not only exceedeth all other Beasts, but also poysoneth when the standeth upright. *Pliny* called this *Catablepon*, because it continually looketh downward, and saith that all the parts of it are but small, excepting the head, which is very heavy, and exceedeth the proportion of his body, which is never lifted up, but all living creatures dy that see his eyes.

By which there ariseth a question, whether the poyson which he sendeth forth, proceed from his breath, or from his eyes. Whereupon it is more probable, that like the Cockatrice he killeth by seeing, then by the breath of his mouth, which is not competible to any other Beasts in the world. Besides when the Souldiers of *Marius* followed *Jugurtha*, they saw one of these *Gorgons*, and supposing it was some Sheep, bending the head continually to the earth, and moving slowly, they set upon him with their swords, whereat the Beast disdainig, suddenly discovered his eyes, setting his hair upright, at the sight whereof the Souldiers fell down dead.

Marius hearing thereof sent other Souldiers to kill the Beast, but they likewise dyed as the former. At last the Inhabitants of the Countrey, told the Captain the poyson of this Beasts nature, and that if he were not killed upon a sudden, with the only sight of his eyes, he sent death into his hunters:

hunters: then did the Captain lay an ambush of Soldiers for him, who slew him suddenly with their spears, and brought him to the Emperour; whereupon *Marius* sent his skin to *Rome*, which was hung up in the Temple of *Hercules*, wherein the people were feasted after the triumphs; by which it is apparent that they kill with their eyes, and not with their breath.

So that the fable of *Servius*, which reporteth that in the furthest place of *Atlas*, these *Gorgons* are bred, and that they have but one eye a piece, is not to be believed, except he mean, as elsewhere he confesseth, that there were certain maids which were sisters, call *Gorgons*; and were so beautiful, that all young men were amazed to behold them. Whereupon it was said, that they were turned into stones: meaning that their love bereft them of their wit and sense. They were called the daughters of *Cetus*, and three of them were made Nymphs, which were called *Pepredo*, *Enye*, and the third *Dion*: so called as *Geraldus* saith, because they were old women so soon as they were born, whereunto was assigned one eye and one tooth. But to omit these fables, it is certain that sharp poisoned sights are called *Gorgon Bleepen*, and therefore we will follow the authority of *Pliny* and *Atheneus*. It is a Beast all set over with scales like a Dragon, having no hair except on his head, great teeth like Swine, having wings to fly, and hands to handle, in stature betwixt a Bull and a Calf.

Hyginus.

There be Islands called *Gorgonies*, wherein these Monster-*Gorgons* were bred, and unto the days of *Pliny*, the people of that Countrey retained some part of their prodigious nature. It is reported by *Xenophon*, that *Hanno* King of *Carthage* ranged with his Army in that Region, and found there certain women of incredible swiftness and perniciousness of foot. Whereof he took two only of all that appeared in sight, which had such rough and sharp bodies, as never before were seen. Wherefore when they were dead, he hung up their skins in the Temple of *Juno*, for a monument of their strange natures, which remained there untill the destruction of *Carthage*. By the consideration of this Beast there appeareth one manifest argument of the Creators divine wisdom and Providence, who hath turned the eyes of this Beast downward to the earth, as it were thereby burying his poyson from the hurt of man; and shadowing them with rough, long, and strong hair, that their poysoned beams should not reflect upwards, untill the Beast were provoked by fear or danger, the heaviness of his head being like a clog to restrain the liberty of his poysonful nature; but what other parts, virtues, or vices are contained in the compass of this Monster, God only knoweth, who peradventure hath permitted it to live upon the face of the earth, for no other cause but to be a punishment and scourge unto mankind; and an evident example of his own wrathful power to everlasting destruction. And thus much may serve for a description of this Beast, untill by Gods Providence, more can be known thereof.

Of the HARE.



A Hare is a four-footed Beast of the earth, which the *Hebrews* call *Arnebet*, in the feminine gender, which word gave an occasion to an opinion that all Hares were females, or at the least that the males bring forth young as well as females: whereof we shall see more in the sequell of this story. And the *Jews* say, that it signifieth nothing else in *Hebrew* but a Hare, for which word *Deut. 14.* the *Chaldee* translateth *Arneba*; the *Arabians*, *Ernab*; the *Persians*, *Kargos*. *Avicenna* calleth it *Arneberri*; *Silvaticus*, *Arnaberri*, *Arnebus*, and *Arnaben*; the *Saracens*, *Arneph*; the *Gracians*, *Lagoos*, *Lagos*, *Lageos*, because of his immoderate lust. It is called *Proox* for his fear, and in *Latine*, *Lepus*, of *Lepipes*, signifying swiftness of feet, and that it is not heard when it goeth; howsoever some men derive it from *Leporis* the Greek word, others derive *Lagos* from *La*, betokening elevation; and *Oos*, signifying an ear, because she pricketh up one of her ears when she runneth. The *Italians* call it *Livora*; the *French*, *Lieure*, and *Leurault*, *Leureteau*; the *Spaniards*, *Liebre*; the *Germans*, *Hass*, or *Haas*; the *Ilyrians*, *Zagicz*.

Of the several names.

O the several
kinds.

There be four sorts of Hares; some live in the Mountains, some in the Fields, some in the Marshes, and some every where without any certain place of abode. They of the Mountains are most swift, they of the fields less nimble, they of the marshes most slow, and the wandering Hares are most dangerous to follow: for they are so cunning in the ways, and mazes of the field, running up the hills and rocks, because by custom they know the nearest way, and for bearing down hills, sometime making heads upon the plain ground, to the confusion of the Dogs, and the dismay-
ing of the Hunter.

Of the Elyan
Hares.

Pollux saith, that there be certain Hares called *Elyan* (almost as big as Foxes) being blackish, of long bodies, and large white spots upon the top of their tails; these are so called of their countrey (like the *Elyman* Dogs.) There be also Hares called *Muschie*, so called because of their sweet smell, or else that they leave in their foot steps such a strong savour, whereunto when the Dogs smell, they are said to be almost mad. At *Pisa* the Hares be very great, because there they have more grate-
full meat than in other places.

Hermolaus.

A secret in the
Muschie
Hares.

Niphus.

Of the Coun-
try Hares, and
their several
parts.

Bonarius.

In the neither *Pannonia* they are much fatter and better tasted than they be in *Italy*, the *Italian* Hare hath its fore-legs low, a part of his back pale or yellowish, the belly white, the ears long: In *Gallia* beyond the *Alpes*; they are also white, and therefore some have thought that in the Winter time they eat snow, and this is certain, that when the snow melteth, their colour is much altered. There hath been white haired Conies, whose skin was black, and hair of their ears black. They are bred in *Lybia*, in *Seybia*, and in *Italy*, in the top of the Mountains, and so brought into other Countries. Some again have been white in the Winter, and return to their former colour in Summer. There are great store of white Conies in *Vitha*, and *Leithuania*, but they are less esteemed and sold cheaper. (*Schnebergerus* saith) the back of a Hare is commonly russet, or like Olive colour interlined with some black spots: the common Hare of the *Alpes* never changeth colour, and is greater than the ordinary Hare. There are white Hares also in *England*, and in *Moscovia*, there are a multitude of Hares of all colours, but no where so many as in the Desert Islands, because there are no Foxes there to kill the young ones, or Eagles, which frequent the highest Mountains in the Continent, and the people that inhabit there regard not hunting.

The Hares of
Ithaca.

In *Athens* (*Maucrius* saith) there were no Hares, but *Alcibiades* affirmeth the contrary. Hares brought into *Ithaca*, dy presently, and if they range a little about the Countrey, yet return they back to the haven where they came to land, and depart not from the shore till they be dead. *Hegestander Delphus* writeth, that in the reign of *Antigonus*, there was such a number of Hares in *Asiatica*, (and afterward in *Leros*) that the Inhabitants were constrained to go to the Oracle, and demand counsel how to resist the Hares, from whom they received answer, that they must nourish Dogs and kill them; and whereas they so abounded in *Leros*, which at the peoples own request and care, multiplied to their great harm, afterward a sign of the Hare was placed in Heaven, to remember them, that nothing so much hurteth man-kinde, as their own desires: yet in ancient time there was not a Hare in those Countries.

Their several
parts.

In the next place we are to describe all the parts and members of Hares, for it is admirable to behold how every limb and part of this Beast is composed for celerity: and first of all the head is round, nimble, short, and of convenient longitude, prone to turn every way; the ears long and lofty like an Asses, for Nature hath so provided, that every fearful and unarmed creature should have long and large ears, that by hearing it might prevent its enemies, and save it self by flight. The lips continually move sleeping and waking, and from the slit which they have in the middle of their nose, cometh the term of Hare-lips, which are so divided in men; for if a Woman with childe see one of them suddenly, it is dangerous, if the childe prove not Hare-lipt. They have also teeth on both sides.

Of their seve-
ral senses.

A secret.

Orus.

Whatsoever Beast be born in your flock, having that mark upon them, which is commonly called Hares-tooth, never suffer them to suck their dam, but cast them away as unprofitable and bastard cattel; the neck of a Hare is long, small, round, soft, and flexible, the shoulder-bone straight and broad, for her more easie turning; her legs before soft and sound, standing a little asunder, very flexible, broader behind then before, and the hinder legs longer then the former; a breast not narrow, but fitted to take breath in course; a nimble back, and fleshy belly, tender loins, hollow sides, fat buttocks filled up, comely, strong, and nervy loins, the fore-feet very flexible; only it wanteth a commodious tail for course. The eyes are brown, it is a subtile Beast, but not bold; it seldom looketh forward, because it goeth by jumps. The eye-lids coming from the brows, are too short to cover their eyes, and therefore this sense is very weak in them; and besides their over-much sleep, their fear of Dogs and swiftness, causeth them to see the less; when they watch, they shut their eyes; and when they sleep they open them.

Wherefore the *Egyptians* when they will signifie and open a manifest matter, they picture a Hare sleeping. They watch for the most part all the night: when the eye-lid of a man is pulled back, so as it will not cover the ball of the eye; the *Grecians* call it *Lagophthalmus*, that is, Hares-eyes, for so doth *Calvus* define it, it cometh sometimes, when in the cure it is cut away too much, or else when the hinder lid falleth down, and standeth not up to meet the other, but concerning the colour of their eyes, it is not very possible to discover it, as well for the causes aforesaid, as also because it is seldom taken but dead; yet this is certain, that with what colour it beginneth, in that it continueth to the last, according to *Virgil's* verses:

Quem fuga non rapit ore Canum, non occulit umbra.

Concolor immortum sub Jove terra tegit.

The liver is so parted asunder, that a man would think there were two livers in one body, and *Pliny* is bold to affirm, that in *Brileum*, *Thirne*, *Propontia*, *Sycynum*, *Bolba*, and other places they are all such. *Archelaus* upon this occasion affirmeth, that a Hare beareth young both male and female, so that the *Grammarians* know not of what sex to make it. *Albertus* and *Democritus* are absolute in this point.

Whether male
bear young
like females.

Blondus confesseth he cannot tell, the common sort of people suppose, they are one year male, and another female. *Ælianus* also affirmeth so much, and by relation of his friend, he ventureth the matter, and saith moreover, that a male Hare was once found almost dead, whose belly being opened, there were three young ones alive taken out of her belly, and that one of them looked up alive, after it had lien a while in the Sun, and it put out the tongue as though it desired meat, whereupon milk was brought to it, and so it was nourished.

But all this is easily answered, if a man follow the counsel of *Archadius*, and look upon the secrets of nature, he shall finde a most plain distinction: but the Hunters object that there be some which are only females, and no more: but no male that is not also a female, and so they make him an *Hermaphyodite*. *Niphus* also affirmeth so much, for he saw a Hare which had stones and a yard, and yet was great with young, and also another which wanted stones, and the males genital, and also had young in her belly. *Rondelius* saith, that they are not stones, but certain little bladders filled with matter, which men finde in female Hares with young, such as are upon the belly of a Beaver, where-in also the vulgar sort are deceived, taking those bunches for stones, as they do these bladders. And the use of these parts both in Beavers and Hares is this; that against rain both one and other sex suck thereout a certain humor, and anoint their bodies all over therewith, and so are defended in time of rain. The belly of a Sow, a Bitch, and a Hare, have many cels in them, because they bring forth many at a time, when a Hare lyeth down, she bendeth her hinder legs under her loins, as all rough-footed Beasts do.

They are deceived, which deliver by authority of holy Scriptures, that Hares love to lodge them upon Rocks, but we have manifested else-where, that those places are to be understood of Conies. They have fore-knowledge both of winde and weather, Summer and Winter by their noses, for in the Winter they make their forms in the Sun-shine, because they cannot abide frost and cold, and in the Summer they rest toward the North, remaining in some higher ground, where they receive colder air.

Ælianus.
Their nature
and dispositi-
on.

We have shewed already that their sight is dim, but yet herein it is true that *Plutarch* saith, they have *Visum indefessum*, an indefatigable sense of seeing, so that the continuance in a mean degree, countervaleth in them the want of excellency. Their hearing is most pregnant; for the *Egyptians* when they signifie hearing, picture a Hare; and for this cause we have shewed you already that their ears are long like horns, their voyce is a whining voyce, and therefore Authors call it *Vagitum*, as they do a young childes, according to the verse of *Ovid*:

Intus ut infanti vagiat ore Puer.

They rest in the day time, and walk abroad to feed in the night, never feeding near home, either because they are delighted with forein food, or else because they would exercise their legs in going, or else by secret instinct of nature, to conceal their forms and lodging places unknown; their heart and blood is cold, which *Albertus* assigneth for a cause of their night-feeding: they eat also Grapes, and when they are overcome with heat, they eat of an herb called *Lactuca Leporina*, and of the *Romans*, and *Ætrurians*, *Ciserbita*, of the *Venetians*, *Lactucinos*; of the *French*, *Lacteronis*; that is, Hares-lettice, Hares-house, Hares palace; and there is no disease in this Beast the cure whereof she doth not seek for in this herb. Hares are said to chew the cud in holy Scripture, they never drink, but content themselves with the dew, and for that cause they often fall rotten. It is reported by *Philippus Belot*, that when a Hare drunk Wine, she instantly dyed; they render their urine backward, and their milk is as thick as a Swines, and of all creatures they have milk in udders before they deliver their young.

Their time of
sleep and food.

Ælianus.

They are very exceedingly given to sleep, because they never wink perfectly: some Authors derive their name *Lagon* in Greek, from *Laein* to see, and thereupon the *Gracians* have a common proverb *Lagos Catheudon*, a sleeping Hare for a dissembling and counterfeiting person, because the Hare seeth when she sleepeth; for this is an admirable and rare work of Nature, that all the residue of her bodily parts take their rest, but the eye standeth continually sentinel. Hares admit copulation backward, and herein they are like to Conies, because they breed every moneth for the most part, and that many; at that time the female provoking the male to carnal copulation, and while they have young ones in their belly they admit copulation, whereby it cometh to pass, that they do not litter all at a time, but many dayes asunder, bringing forth one perfect, and another bald without hair, but all blinde like other cloven-footed-beasts. It is reported that two Hares brought into the Isle *Carpatus*, filled that Island with such abundance, that in short time they destroyed all the fruits, whereupon came the

Of their copu-
lation and en-
gendering.

the proverb *Carpathius Leporem*, to signifie them which plow and sow their own miseries.

It falleth out by divine Providence, that Hares and other fearfull Beasts which are good for meat, shall multiply to greater numbers in short space, because they are naked and unarmed, lying open to the violence of men and beasts, but the cruel and malignant creatures, which live only upon the devouring of their inferiours, as the Lyons, Wolves, Foxes, and Bears, conceive but very seldom, because there is less use for them in the world, and God in his creatures keepeth down the cruel and ravenous, but advanceth the simple, weak, and despised; when the female hath littered her young ones, she first licketh them with her tongue, and afterward seeketh out the male for copulation.

Hares seldom tamed.

An example of a tame Hare.

Ælianus.
The subtilty of Hares.
The defence of the Hare against her enemies.

Albertus.

Hares do seldom wax tame, and yet they are amongst them, which are neither *Placide* nor *Fere*, tame nor wilde, but middle betwixt both, and *Cardane* giveth this reason of their untameable nature, because they are perswaded that all men are their enemies. *Scaliger* writeth; that he saw a tame Hare in the Castle of Mount-Pesal, who with her hinder legs would come and strike the Dogs of her own accord, as it were defying their force, and provoking them to follow her. Therefore for their meat they may be tamed and accustomed to the hand of man, but they remain incapable of all discipline, and ignorant of their teachers voyce, so as they can never be brought to be obedient to the call and command of their teacher, neither will goe nor come at his pleasure.

It is a simple creature, having no defence but to run away, yet it is subtil, as may appear by changing of her form, and by scraping out her footsteps when she leapeth into her form, that so she may deceive her Hunters, also she keepeth not her young ones together in one litter, but layeth them a furlong one from another, that so she may not lose them all together, if peradventure men or beasts light upon them. Neither is she careful to feed her self alone, but also to be defended against her enemies, the Eagle, the Hawk, the Fox, and the Wolf, for she feareth all these naturally, neither can there be any peace made betwixt her and them, but she rather trusteth the scratching brambles, the solitary woods, the ditches and corners of rocks or hedges, the bodies of hollow trees, and such like places, then a dissembling peace with her adversaries.

The wilde Hawk when she taketh a Hare, she setteth one of her talons in the earth, and with the other holding her prey, striving and wrestling with the Beast untill she have pulled out his eyes, and then killeth him. The Foxes also compass the poor Hare by cunning, for in the night time when he falleth into her foot-steps, he restraineth his breath, and holdeth in his savour, going forward by little and little, untill he finde the form of the Hare, and then thinking to surprize her, on a sudden leapeth at her to catch her; but the watchful Hare doth not take sleep after a careless manner, delighting rather in suspicion than security, when she perceiveth the approaching of such a guest, (for she windeth him with her nostrils) and thinketh it better to go from home, than make a feast to her foe.

Wherefore she leapeth out of her form and runneth away with all speed she can. The Fox also followeth, but a far off, and she hearing her adversary no more, betaketh her self to rest again, under some bramble, or other bush, supposing that the ground she hath gotten shall never be recovered of her again: but the Proverb is old and true, Fair and softly goeth far; so the Fox which seldom getteth meat, but winneth it with his wit and his heels, followeth as fast as he can; for a slow pace overtaketh the Hare at rest, which when she perceiveth, forth she goeth again, forsaking her quiet sleep, for the safe-gard of her life, and having gone so much ground as she did before, she betaketh her to rest the second time, hoping that now she hath quit her self from her foe; but the Foxes belly hath no ears, and therefore hunger is to him like a thousand whips, or a whole kennel of Hounds, forcing him forward after his game.

The Hare for her better safeguard getteth up into some small tree, being sleepy and weary through the Foxes pursute; the Fox cometh to the tree and shaketh it by the roots, and will not suffer the Hare to take any rest, for he hopeth that time and travel will bring her to his dish; she leaps away again, and letteth no grass grow under his feet, hoping that her heels shall deliver her from the Foxes teeth: After follows the Fox, and at length (as the greater purse over-weigheth the smaller, and the great Horse of War over-wearieth the little hunting Nag,) so doth the lusty limbs of the Fox, out-last the weak legs of the Hare, and when she can go no more, needs must her weakness betray her to her foe, and so was her flight and want of rest like a sickness before her death, and the Foxes presence like the voyce of a passing bell.

Ælianus.

And on the contrary, all the labour of the Fox, like a gentle and kinde exercise for the preparing of his stomach to such a feast. The fifth and least kinde of Wolves are also enemies to Hares, and the Weasill do craftily sport and play with the Hare untill he have wearied him, and then hangeth fast upon her throat, and will not lose her hold, run the Hare never so fast, till at last through want of breath, and loss of blood, she falleth into the hands of her cruel play-fellow, who turneth sport into good earnest, and taketh nothing from her but her blood, leaving her carcase to be devoured by the hands of others, and in this manner is the silly Hare hunted by beasts: Now let us hear how she is hunted of men.

The hunting of Hares.

It is before expressed, that every limb of a Hare is composed for celerity, and therefore she never travellet but jumpeth, her ears lead her the way in her chase, for with one of them she harkeneth to the voyce of the Dogs, and the other she stretcheth forth like a sail to hasten her course, always stretching her hinder-feet beyond her former, and yet not hindering them at all; but sometimes when her ardent desire maketh her strain to fly from the Dogs, she falleth into the nets, for such

is the state of the miserable, that while they run from one perill, they fall into another; according to the saying of holy Scripture, Isa. 24. *He that scapeth out of the snare, shall fall into the ditch.* And this is to be noted, that if the Hare had the wit to run forthright, and never to turn, she could not be so easily over-taken; but because of her love to the place of her breed, there she is taken and loseth her life where she had her beginning: for she preferreth that place above all other for safety. Again some of the elder Hares, as soon as they hear the Dogs, fly to the tops of the high Mountains, for they more easily run up the hill, then down.

Wherefore the Hunter must studiously avoid that disadvantage, and keep her down in the vallies. In paths and high ways she runneth more speedily, wherefore they must be kept from that also. The Hares of the Mountains do oftentimes exercise themselves in the plain, and through practise grow acquainted with the neerest ways to their own lodging; so that if at any time the husbandmen set upon them in the fields, they dally with them till they seem to be almost taken, and then on a sudden take the neerest way to the Mountains, not suspected by the Hunters, and so take sanctuary in the inaccessible places, whither Dogs nor Horse dare ascend. For the Hares which we keep in the bushes are not able to endure labour, and not very swift (by reason of the pain in their feet) growing fat through idleness and discontinuance of running, they must be hunted on this sort: first of all they go through young woods and hedges, such as grow not very thick, for the thicker hedges they leap over, but when they come to many thick places that they must leap over, they quickly fall down and are tired.

The Dogs first of all go from them carelessly, because they cannot see them through the trees, but suffer them to run in the Woods following a far off by the scent, untill at last they get the sight of her, and through their better exercise and skill, easily overtake her: but the campestral or Field-hare being leaner of body, and oftner chased, is taken with more difficulty, by reason of her singular agility, she therefore when she begins her course, leaperth up from the ground as if she flew; afterward passeth through brambles and thick bushes with all expedition; and if at any time she come into deep grafs or corn she easily delivereth her self and slideth through it. And as it is said of the Lyons, that with their tails they stir up their strength and courage; so are the ears of this Beast like Angels wings, Ships sails, and rowing Oars, to help her in her flight; for when she runneth she bendeth them backward, and useth them in stead of sharp spurs to prick forward her dulneis, and in her course she taketh not one way, but maketh heads like labyrinths to circumvent and trouble the Dogs, that so she may go whither she will, always holding up one ear, and bending it at her pleasure to be the moderator of her chase. Neither is she so unprovident or prodigal of her strength, as to spend it all in one course, but observeth the force of her persecutor, who if he be slow and sluggish, she is not profuse of her celerity, but only walketh gently before the Dogs, and yet safely from their clutches, reserving her greatest strength to her greatest necessity; for she knoweth that she can out-run the Dogs when she pleaseth, and therefore it is a vain conceit to trouble her self more then she is urged. But if there be a Dog following her more swiftly then the residue, then she setteth forward with all the force she can, and when she hath left both Hunters and Dogs a great way behinde her, she getteth to some little hill or rising of the earth, there she raiseth her self upon her hinder legs, like a Watch-man in his Tower, observing how far or near the enemy approacheth, and perceiving that she is delivered from pursuit of all danger, seemeth to deride the imbecillity of their forces.

The younger Hares by reason of their weak members, tread heavier upon the earth then the elder, and therefore leave the greater favour behinde them: and in ancient time, if the Hunters had taken a young Leverit, they let her go again in the honour of *Diana*. At a year old they run very swift, and their favour is stronger in the Woods then in the plain fields.

The Hare is followed by the foot and so descryed, especially in soft grounds or high-ways, but if they go to the Rocks, to the Mountains, or to the hollow places, they are more uncertain, if they ly down upon the earth (as they love to do) in red fallow grounds they are easily descryed.

When they are started in the plain fields they run far, but in the Woods they make short courses: If they hear the Dogs, they raise themselves on their legs and run from them; but if fearful imagination oppresses them, as they oftentimes are very sad and melancholy, supposing to hear the noise of Dogs where there are none such stirring, then do they run to and fro, fearing and trembling, as if they were fallen mad.

Their footsteps in the Winter time are more apparent then in the Summer, because as the nights be longer, so they travel farther: neither do they smell in the Winter mornings so soon as it is day, untill the frost and ice be thawed, but especially their footsteps are uncertain in the full Moon, for then they leap and play together, scattering and putting out the favour; nor in the Spring time also when they do ingender, they confound one anothers footsteps by multitude.

They which will go forth to hunt or take pleasure in that pastime, must rise early, lest they be deprived of the smell of her footsteps, so shall not the Dogs be able any way to finde the Hare, nor the Hunters their game and pastime: for the nature of the footstep remaineth not long, but suddenly in a manner vanisheth away every hour. Again, they must set the Hills and Rocks, the Rivers, and also the Brooks with nets and gins, thereby as it were stopping up the starting holes, paths, and ways, wherein the Hare for the most part trusteth, whether they be broad or narrow: The best time for the effecting and bringing hereof is after the Sun-rising, and not in twilight or break

break of the day, lest the nets be set neer the Hares form, and she be scared away, but if they be set a far off, there is no danger of her departure after the Sun is up, because then she giveth her self to sleep: the nets must be set on this manner, let the rode be pitched upright, fastning their snares to the tops, raising the net in the middle, and hang a long stone at one side, that when the Hare is in the net she may not go out again. When the Hare is raised, he which followeth her to the nets, must drive her in with a great cry, and being in the net, he must gently restrain the Dogs, and make signification to the hunter that she is taken, or else if it fail, let him shew the contrary.

The keeper of the nets must keep silence, lest by hearing of his voice she be averted, and the hunter must take the Dogs and go to the forme, there to start the Hare; and the fashion was in ancient time among the *Pagani*, first of all to call upon *Apollo* and *Diana*, (their imagined Gods of hunting) to speed their sport, and to whom they promised part of their game. But when the Dog is sent forth, and after much winding and casting about, falleth into the footstep of the Hare, then let him loose another, and seeing them run in one course, uncouple all the Hounds, let him follow after, speaking to his Dogs by name, saying now *A*, then *B*. *Hoika C*. and such like words of Art, not pressing them too eagerly at the beginning, but gently encouraging them to the pursuit.

The Dogs take this for a sign of joy, and being glad to gratifie their Masters run along with a gallant cry, turning over the doubtful footsteps; now one way, then another, like the cuts of Indentures, through rough and plain, crooked and straight, direct and compass, wagging of their tails, and glittering with their eyes, untill they finde the Hares form: then they make signification thereof to the hunter with their tails, voices, and paces; now running together, now standing still divided asunder, they set upon the beast, who suddainly riseth and turns the cry of the Hounds after her flight, then must the Hunters cry out, *Jo* Dogs, there boyes, there, *Jo, A, Jo, B, Jo, C*, and the shortest word is fittest to applaud the Dogs.

Let the Hunter also run after, so as he never meet the Hare and trouble the hounds, the poor Hare gets her out of sight, and runs to the place where she was first started, but if she fall into the nets by the way, the keeper of the nets must give token to the Hunters by his hollowing voice, after the usual manner of woodmen: *O oha, O oha*, that the game is at an end, and then call the Dogs by name. If the Hare run far, and stand long on foot, and if the Dogs passe over the Hares footsteps and disery them not, then must the Hunter recall them with a peculiar hunting term, and lead them to the place, or casting himself about it as near as he can, rebuking the Dogs that range at uncertainties, and exhorting them that be diligent; who when they have found the footings again, run on as before, with all alacricity. In the mean season let the Hunter stand still till the Dogs do infallibly demonstrate unto him that they have found the game again, then let the Hunter proceed as before, exhorting his Dogs to the sport, and if it last all day, the Hunter must regard that he restrain and keep the Dogs to the wearied Hare, lest if they start a fresh one, their labour be lost. If it be in Summer about noon, let him rest his Dogs for strengthening of their feet till the heat be over; if it be snowie weather, and the winde set Northerly, the footsteps remain long and are not easily melted, but if the South winde blow, the footsteps are very quickly shortned: and neither when the snow falleth fast, or the winde bloweth strong, must the Dogs be led forth to hunting, for the snow burneth the Dogs nose, and the frost killeth the heat of the Hares foot; then let the Hunter take his nets and some other companion with him, and go to the Woods or Mountains, tracing out the footsteps of the beast in the snow unto the form, which is in some steep or shadowed place, where the windes blow over the snow, for in such places doth the Hare seek her lodging; having found it, let him not come too neer, lest he raise her from her seat, but cast round about, and if he find no footings from that place, he may take it for granted that the Hare is found.

Having so done, let him leave her, and seek another before the snow be melt, and the footings dashed, having respect to the time of the day, that so he may inclose and take them before the evening: then let him draw his nets round about them, compassing the whole plat wherein she resteth, and then raise her from her stool: if she avoide the net, he must follow her by the foot unto her next lodging place, which will not be far off, if he follow her close, for the snow doth weary her and clot upon her hinder feet, so as the Hunter may take her with his hand, or kill her with his staffe.

Blondus sheweth another way of taking Hares: The Hunters spread and divide themselves by the untilled and rough wayes, leading a Gray-hound in a slip, beating the dushes, hedges, and thorns, and many times sending before them a quick smelling Hound, which raiseth the Hare out of her mufe, and then let go the Gray-hound with hunting terms, and cries, exhorting him to follow the game; and many times the Dogs tear the Hare into many pieces, but the Hunters must pull them bleeding from the mouth of their Dogs.

Others again lie in wait behinde bushes and trees to take the Hare on a sudden, and some in the Vineyards, for when they are fat and refty, they are easily overtaken, especially in the cold of Winter. *Cyrus* (as appeareth in *Xenophon*) was taught to make ditches for the trapping of Hares in their course, and the Eagles and Hawkes watch the Hare when she is raised and hunted by the Hounds, and set upon her on the right side, whereby they kill and take her, so that it is true which was said at the beginning, that Hares are hunted by Men and Beasts.

Having

Having thus discoursed of Hunting and taking of Hares, now it followeth also in a word or two to discourse of Parks or inclosed Warrens, wherein Hares, Conies, Deer, Bores, and other such beasts may alwayes be ready, as it were out of a store house or Seminary, to serve the pleasure and use of their Masters. *Graptus* saith, that the first Roman that ever inclosed wilde beasts, was *Fulvius Herpinus*, and *Gellius* saith, that *Varro* had the first Warren of Hares: the manner was (saith *Columella*) that Richmen possessed of whole Towns and Lordships, neer some Village, inclosed a piece of land by pail, mudwall, or bush, storing the same with divers wilde beasts, and such a one there was in the Lordship that *Varro* bought of *Marcus Piso* in *Tusculanum*; and *Quintus Hortensius* saw at *Laureum* a wood inclosed, containing fifty Acres, wherein were nourished all sorts of wilde beasts, within the compass of a wall.

Quintus Althea commanded his Forrester to call the beasts together before him, and his guests sitting at Supper, and instantly he sounded his pipe, at the voice whereof there assembled together a great company of all sorts, to the admiration of the beholders. *Quintus Fulvius* had a Park in *Tarquinius*, wherein were included not only all the beasts before spoken of, but also wilde Sheep, and this contained forty Acres of ground: besides he had two other. *Pompeius* erected a Parke in *France*, containing the compass of three thousand paces, wherein he preserved not only Deer, Hares, and Conies, but also Dor-mise, Bees, and other Beasts: the manner whereof ought to be thus; first that the wals or pales be high, or close joyned, so as neither Badgers, nor Cats may creep through, or Wolves, or Foxes, may leap over: Wherein ought also to be bushes, and broad trees for to cover the beasts against heat and cold, and other secret places to content their natures, and to defend them from Eagles and other ravening Fowls: In which, three or four couple of Hares do quickly multiply into a great Warren. It is also good to sow Gourds, Mifeline, Corn, Barly, Peas, and such like, wherein Hares delight and will thereby quickly wax fat. For their fattening, the Hunters use another devise, they put Wax into their ears, and so make them deaf, then turn them into the place where they should feed, where being freed from the fear of sounds (because they want hearing) they grow fat before other of their kinde.

Concerning the use of their skins, in some Countries they make sleeves and breeches of them, especially lynyngs for all outward cold diseases, *Heliogabalus* lay upon a bed filled with fiew or wool of Hares, for than that, there is nothing more soft, for which cause the *Greeks* made sponges thereof, to cleanse the eyes of men: The Goldsmiths use the feet or legs of Hares in stead of brushes or brooms, to take of the dust from their plate. The flesh of Hares hath ever been accounted a delicate meat (among all other four-footed beasts) as the Thrush among the fowls of the air, according to the saying of *Martial*:

The civil use of
their several
parts.

Inter aves Turdus, si quis me iudice, ceret,

Inter quadrupedes, gloria prima lepus.

In ancient time (as *Cælius* saith) the Britains were forbidden to eat Hares, like as the Jews by the law of *Moses*, Lev. 11. Deut. 14. *Plutarch* enquireth the reason why the Jews worship Swine, and Hares, because they did not eat their flesh: whereunto answer was made, that they abstained from Hares, because their colour, ears and eyes, were like Asses; wherein the ignorance of Gods law appeared, for they abstained from Hares at Gods commandment, because they were not cloven-footed, for the Egyptians accounted all swift creatures to be partakers of Divinity.

Their flesh ingendereth thick blond, therefore it is to be prescribed for a dry diet, for it bindeth the belly, procureth urine, and helpeth the pain in the bowels: but yet it is not good for an ordinary diet, it is hot and dry in the second degree, and therefore it nourisheth but little being so hard, as *Galen* witnesseth.

The blood is far more hot then the flesh, it is thin, and therefore watery like the blood of all fearful beasts; the hinder parts from the loins are most delicate meat, called in Latin, *Pulpamentum*, it was wont to be dressed with salt, and Coriander seed, yet the forepart is the sweeter, for the manner of the dressing whereof I leave to every mans humour. It was once believed that the eating of the hinder loins of a Hare would make one fair, or procure beauty, whereupon *Martial* received a Hare from *Gellia* a friend of his with this message;

The blood and
flesh eaten.

Formosus septem Marce diebus eris.

And he retorted the jest in this manner upon *Gellia*;

Si me non fallis, si verum (lux mea) dicis,

Edisti nunquam, Gellia, tu leporem.

Lampridius writeth that a certain Poet played upon *Alexander Severus* the Emperour for eating Hares flesh, which made him fair, whereas in truth he was very black; In this manner:

Pulchrum quod vides esse nostrum regem,

Quem Syrum suum detulit propago,

Venatus

*Venatus facit, & lepus comesus,
Ex quo continuum capit leporem.*

The Emperour seeing those Verses, for Emperours have long ears and hands, made answer unto them as followeth;

*Pulchrum quod putas esse vestrum regem
Vulgari (miserande) de fabella,
Si verum putas esse, non irascor;
Tantum tu comedas velim lepuseulos,
Ut fias animi malis repulsis
Pulcher, ne invidias livore mentis.*

If any man finde fault with the Emperours Verses, *Erasmus* hath already answered the objection, that Kings and Emperours are not subject to laws of versifying; besides his answer was in *Greek*, and this but translated.

The Epithets
of Hares.

Stories of
monstrous
Hares.

The eating of Hares procureth sleep, and thus much for the flesh and parts. The Epithets of a Hare expressing their natures are, Eared, trusting their feet, fearful, careful, fruitful, flying, raging, unhorned, little, crafty, tender, sharp-smelling, swift, whining, and wandring, besides many other *Greek* names. When *Xerxes* gathered his Army to go against *Grecia*, a Mare brought forth a Hare, which foreshewed that great Army should work no strange effect. And another Mare of three years old brought forth an Hare which spake as soon as it was littered, biting her mother with her teeth, and killing her, and while they looked upon her, sucking her dams blood, feathers grew out of her back in fashion of wings, which being done, the monster lifting up the voice, spake in this manner; *Fundite jam lachrymas & suspiria miseri mortales, ego hinc abeo*: that is to say, O ye wretched mortal men weep and sigh, I go away: at which words she flew away and was never seen more.

There were present at the sight hereof seven publick notaries, which called witnesses and made instruments thereupon, (as *Antonius Bautius* writeth in his Epistle to *Petrus Toletus* of Lyons in the year 1537. in December:) whereunto the said *Toletus* made this answer, The dayes shall come (saith he) except the mercy of God prevent them, that children shall think they do obedience to their Parents if they put them to death.

They shall grieve because they were born, and say they are adulterate, as the Hare that was born of the Mare. Likewise it is reported by *Lisander*, that when the *Corinthians* refused the conduct of the *Lacedemonians*, and the *Lacedemonians* besieging the City, fell to be very much afraid, and unwilling to scale the wals; whiles they stood in this amaze, suddenly a Hare leaped out of the town ditch; which thing when *Lisander* saw, he exhorted his Souldiers, saying, Be not afraid (O ye *Spartans*) of this sluggish and unexercised people, for you see they stir not out of the City, but suffer Hares to lodge under their wals; whereupon came the proverb (*Dormire lepores sub mœnibus*) Hares sleep under their wals, to signifie a slothfull, secure, sluggish, idle, and unthrifty people.

The Eagles of *Norway* lay their young ones in Hares skins, which themselves pull off. There is also a bird in *Scythia*, about the bigness of a Bustard, which bringeth forth two at a time, and keepeth them in a Hares skin which he hangeth upon a bough. Hares were dedicated to love, because (*Xenophon* saith) there is no man that seeth a Hare but he remembreth what he hath loved.

Pausanias.

They say the City *Bocas* of *Laconia* was builded by a sign of good fortune taken from a Hare, for when the Inhabitants were driven out of their Countrey they went to the Oracle to desire a place to dwell in, from whom they received answer, that *Diana* should shew them a dwelling place: they going out of their Countrey a Hare met with them, which they consented to follow, and there to build where the Hare should lodge, and they followed her to a Myrtle tree, where the Hare hid her self, in which place they builded their City, and ever afterwards retained with veneration a Myrtle tree. And thus I will conclude this moral discourse of Hares, with that Epigram of *Martial* made upon occasion of a Hare that in sport passed through the mouth and teeth of a tame Lion, saying that she was ambitious in offering her life to the Lions teeth in this wise:

*Non facit ad saevos cervix nisi prima leones,
Quid fugis hos dentes, ambitiose lepus?
Scilicet a magnis ad te descendere tauris,
Et quæ non cernunt frangere colla velint.
Desperanda tibi est ingentis gloria fati:
Non potes hoc tenuis præda sub hoste mori.*

The medicines
of Hares.
Pliny.

The powder of a Hare with oil of myrtle, driveth away pain in the head, and the same burned cureth the Cough: the powder thereof is good for the stone in the bladder: also the bloud and sine of a Hare burnt in a raw pot to powder, afterwards drunk fasting with Wine and warm water,

it cureth the stone: and *Sextus* saith, he made triall of it by putting a spoonful of the powder into water wherein was a sand stone, and the same stone did instantly melt and dissolve: so likewise a young Hare cut out of the dams belly and burnt to powder, hath the same operation. A wastcoat made of Hares skins straighten the bodies of young and old: also the same dipped in Oil laid to the sore places of a Horses legs where the skin is off by over reaching, it often cureth the sore: the blood taken warm out of the body amendeth Sun burning, freckles, pimples, and many other faults in skin and face; which *Celsus* prescribeth to be done, first by washing the place many hours together, in the morning with the blood, and afterwards anointing it with oil: the same virtue is in the fat of Swans mingled with oil, according to the saying of *Serenus*:

Cygnos adipis bilari misceto Lyco,
Omne malum propere maculoso ex ore fugabit,
Sanguine vel leporis morbus delabitur omnis.

It also cureth and taketh away the thick skin of the eye, it adorneth the skin, produceth hair in bald places, and easeth the Gout.

Oino cutim, produco pilos, & sedo podagram,
Sanguine si fuerint membra peruncta meo.

It being fried, helpeth the Bloudy flux, Ulcers in the bowels, and old laske, and taketh away the poison of an arrow; it being anointed upon a hot outward Ulcer, it ripeneth it. After a bath, it cureth a great Leprosie by washing. The Rennet of a Hare stayeth looseness, the flesh is profitable for Ulcers in the bowels, it breaketh the stone being beaten, and being decocted like a Fox easeth the Gout and the shrinking up of the sinews. The fat with the flowers of beans beaten together, draweth thorns out of the flesh: If a nail stick in the sole of the foot, beat together the fat of a Hare and a raw Sea-crab, then lay it to the place, and right against it upon the same foot lay also two or three Bean flowers, and let it lie a day and a night, and so it shall be cured: and the same draweth a poisoned Arrow out of a Horse. *Andreas* reporteth to *Gesner*, that he hath often heard that the sewer of a Hare layed to the crown of a Womans head, expelleth her secunds, and a dead childe out of the womb. The powder made of this wool or Hair stancheth bleeding, if the hairs be pulled off from a live Hare, and stopped into the nose.

The powder of the wool of a Hare burned, mingled with the Oil of Myrtles, the gall of a Bull, and Allum warmed at the fire, and anoint it upon the head, fasteneth the hair from falling off: also the same powder decocted with hony, helpeth the pain in the bowels, although they be broken: being taken in a round ball the quantity of a Bean together; but these medicines must be used every day.

Arnoldus prescribeth the hair to be cut short, and so to be taken into the body against burstness: A perfume made of the dung and hairs of a Hare, and the fat of a Sea-ealse, draweth forth Womens flowers. The seed of a wilde Cowcumber, and an Oyfter shell burned, and put into Wine, mingled with the hair of a Hare, and wool of a Sheep, with the flower of Roses, cureth inflammations of Womens secrets after their child birth. Also *Hippocrates* prescribeth the shell of a Cuttle-fish to be beaten into Wine and layed in Sheeps wool and Hares hair, helpeth the falling down of the womb of a Woman with childe. If a mans feet be scorched with cold, the powder of a Hares wool is a remedy for it. The head of a Hare burned and mingled with fat of Bears and Vinegar, causeth hair to come where it is fallen off, and *Galen* saith that some have used the whole body of a Hare so burned and mingled for the foresaid cure, being layed in manner of a plaister.

By eating of a Hares head, the trembling of the Nerves and the losse of motion and sense in the members receiveth singular remedy. These things also preserve teeth from aking: the powder of a Hares head burned with salt mingled together, rubbed upon the teeth, or if you will put thereunto the whitest Fennel, and the dried beans of a Cuttle fish.

The *Indians* burn together the Hares head and Mice for this purpose. When ones mouth smelleth strong, this powder with Spicknard asswageth the smell. The brain is good against poison. The heart of a Hair hath in it a theriacal virtue also. The brain is proved to have power in it for comforting and repairing the memory. The same sod and eaten helpeth tremblings which happen in the accessions of sickness, such an one as is in the cold shaking fit of an Ague: It is to be noted, that all trembling hath its original cause from the infirmity or weakness of the Nerves, as is apparent in old age, although the immediate causes may be some cold constitution, as abundance of cold humors, drinking of cold drink, and such like; all which tremblings are cured by eating the brain of a Hare roasted, (saith *Dioscorides* and *Egineta*.) It also helpeth children to breed teeth easily, if the gums be rubbed therewith, for it hath the same power against inflammation, that hony and butter hath: being drunk in Wine and the stones thereof roasted and eaten, it is good for him that hath any pain in his bladder, and if the Urine exceed ordinary, for staying thereof, take the brain hereof to be drunk in wine.

The tooth of a Hare layed to that part where the teeth ake, easeth them. Take the Maw with the dung in it, and wash it in old wine so as the dung may mingle therewith, and then give it to *Rafis*. one sick of the Bloudy-flux, and it shall cure him. The Rennet hath the same virtue that is in a Calves

Serenus.

or

Aristotle.
Galen.

or Kids, and whereas *Nicander* praiseth it in the first place, for the virtue it hath in it against poison, *Nicoon* an ancient Physitian giveth it the second place, for it is full of sharp digesting power, and therefore hath a drying quality. It dissolveth the congealed and coagulated milk in the belly, and also clotted blood within in the stomach more effectually then the Rennet of any other beast, being alway the better for the age.

Dioscorides.

Being mingled with Vinegar, it is drunk against poison; and also if a Man or Beast be anointed with it, no Serpent, Scorpion, Spider, or wilde Mouse, whose teeth are venomous will venture to sting the body so anointed; or else inwardly take thereof three spoonfuls with Wine against the said bitings, or of any Sea-fish or Hemlock after the wound received; and with Vinegar it is soveraign against all poison of *Chameleons*, or the blood of Bulls.

Marcellus.

The same being drunk in Vinegar, or applyed outwardly to womens breasts, disperseth the coagulated milk in them: also being mingled with Snails, or any other shellfish, which feed upon green herbs or leaves, it draweth forth Thornes, Darts, Arrowes, or Reeds out of the belly: or mingled with gum of Frankincense, Oil, bird lime, and Bees-glew, of each an equall quantity with Vinegar, it stancheth blood, and all issues of blood flowing out of the belly: and it also ripeneth an old sore, according to the saying of *Serenus*;

Si inducas leporis aspersa coagula vino.

Dioscorides.

Being layed to the Kings evill in Lint with Vinegar, it disperseth and cureth it: also it healeth Cankers, it cureth a Quartan Ague; also mixed with Wine and drunk with Vinegar, against the Falling evill and the stone in the bladder: If it be mixed with *Sagapanum* and Wine *Amyny*, and infused into the ears, giveth help, as also the pain of the reeth. It dissolveth blood in the lights, and easeth the pain of blood congealed in your stomach: when one spitteth blood, if he drink *Samia* and Myrtle with the Rennet of a Hare, it shall give him very present ease.

The latter learned Physitians take a drink made of Vinegar and Water, and give it warm to eject and expell blood out of the Lights; and if any drop thereof cleave in the bowels, then do they three or four times together iterate this potion, and after apply and minister all binding astringent medicines and emplaisters, and for the Bloudy flux it is good to be used: It is held also profitable by *Dioscorides* and other the ancients, that if the pap or brest of a Woman be anointed therewith, it stayeth the sucking Infants looseness in the belly, or else given to the childe with Wine, or (if it have an Ague) with Water.

There is, saith *Aristotle*, in the Rennet a fiery quality, but not in the highest degree, for as fire dissolveth and discerneth, so doth this in milk distinguish the airy part from the watery, and the watery from the earthy: Wherefore when one tasteth an old Renner, he shall think he tasteth an old putrified Cheese, but as leaven is to bread, which hardneth, joyneth, and seasoneth the same, so is Rennet to Cheese; and therefore both of them have the same qualities of dissolving and binding: *Galen* affirmeth that he cured one of Gowty tumours and swellings, by applying thereunto old and strong putrified Cheese beaten in a mortar, and mixed with the salted fat or leg of a Swine. If a Man sick of the Bloudy flux drink thereof in a reer Egge two scruples for two dayes together fasting, it will procure him remedy.

For pacifying the Colick, drink the Rennet of a Hare: the same mingled with Goose grease, stayeth the incontinencie of Urine, it also retaineth womens flowers. If it be drunk with Vinegar it helpeth the seconds, and being applyed with Saffron and the juyce of Leeks, driveth a dead childe out of the womb. If it be drunk three or four dayes together after childe-birth, it causeth barrenness. There are (saith *Pliny*) a kind of Wormes which being bound to Women before the Sun rising in a Harts skin, cause them that they cannot conceive: this power is called *Afocion*.

Masarius saith, that if a Woman drink this Rennet to her meat before she conceive with childe, she should be delivered of a Male child: and such is the foolish opinion of them which affirm at this day, that if men eat parsley or white buds of black ivie, it maketh them unable to carnall copulation.

Actius.

The Rennet of a Hare easeth and disperseth all tumors and swellings in Womens breasts: the Lights of a Hare powdred with salt, with Frankincense, and white wine, helpeth him that is vexed with the Falling sickness, if he receive it thirty dayes together. *Sextus* ascribeth the same remedy to the Hart, and *Pliny* commendeth the Lights to heal the pain in the eyes. Being drunk in powder, it cureth the secrets. If the heels be troubled with Kibes, they are healed with the fat of Bears; but if they be wrung with a cold, they are healed with the dust of a Hares hairy, or the powder of the Lights; Likewise when the foot is hurt with strait shooes, it hath the same operation. The ancient *Magi* took the skin of an Oxe in powder, with the Urine of Boyes, and sprinkled it on the toes of their feet, binding the heart of a Hare to the hands of him that hath a Quartan Ague: and some cure it by hanging the heart of a young Hare or Leveret to the neck or arme, in the beginning of the fit of him that is so visited. The heart of a Hare dried mixed with Frankincense, or Manna in white wine drunk thirty dayes together, cureth the Falling sickness.

Sextus.

Pliny.

For the pain in the belly take the same medicine, and drunk with warm water mingled with *Samia*, cureth the fluxes of women; also if a man that hath the flux eat the Liver of a Hare dipped in sharp Vinegar it helpeth him if he be Liver sick; or if one have the Falling sickness, eat the quantity of an ounce thereof, and it helpeth him. The Gall of a Hare, the Heart, Lungs, Lights and Liver

of

of a Weasel, mixed together, three drams, one dram of *Castoreum*, four drams of Myrrha, a dram of Vinegar and Hony beat together, cureth him that hath a swimming or dizziness in his brain. The gall newly taken forth mingled with a like portion of hony, and warm in the skin of an onion, and so put into the ear, giveth remedy to him that can hear nothing. *Galen.*

If he that is sick in the milt, that is, if it be over hard, swallow down the milt of a Hare not touching it with his teeth, or seeing it with his eyes, it cureth him. The belly of a Hare with the intrails tosted and burned in a frying-pan mixed with Oil, and anointed upon the head, restoreth decayed hairs. The reins of a Hare inveterated and drunk in Wine, expelleth the stone, and being sod, cut and dried in the Sun, helpeth the pain in the reins, if it be swallowed down and not touched with the teeth. The reins of a Hare, and of a Moor-hen, cureth them that are poisoned by Spiders, the stones of a Hare roasted and drunk in Wine, stayeth the incontineny of Urine. In the pain of the loins, and of the hip bones, they have the same operation. The secrets and stones of Hares are given to Men and Women to make them apter to copulation and conception, but this opinion hath no other ground beside the fecundity of the beast that beareth them. They which carry about with them the ankle bone of a Hare, shall never be pained in the belly (as *Pliny* saith) So likewise *Sextus* and *Marcellus*. *Avicen.*

Take the ankle bone out of a live Hare, and hairs from her belly, therewithal make a threed and bind the said bone to him that hath the Colick, and it shall ease him. The said bone also beaten to powder is reckoned among the chief remedies against the stone. When Women have hard travel, put it into Cretick-wine with the liquor of Penroyal, and it procureth speedy delivery, being bound to the benumbed joynts of a mans leg bringeth great ease: so also do the feet being bruised and drunk in warm Wine, relieve the arteries and shortness of breath: and some belive that by the foot of a Hare cut off alive, the Gout is eased.

The fime of a Hare cureth scorched members, and whereas it was no small honour to Virgins in ancient time, to have their breasts continually stand out, every one was prescribed to drink in Wine or such other things, nine grains of Hares dung: the same drunk in Wine in the evening stayeth Coughing in the night; in a potion of warm wine it is given to them that have the Bloudy flux, likewise if a man be sick of the Colick, and drink three picles thereof in sweet Wine, it procureth him much ease: being decocted with hony and eaten every day, the quantity of a Bean in desperate cases, mendeth Ruptures in the bowels.

Asclepiades in his medicine whereby he procured fruitfulness to Noble Women, he gave them four drams of Myrrha, two drams of Flower-deluce, two of Hares dung, confected with Collyrial water, & so put up into their bellies after ceasing of the flowers, before they lay with their Husbands. *Albertus* and *Raphael* prescribe this medicine to help a woman that wanteth milk in her breasts, *Crystal*, white Mustard-seed, and Hares dung put into broath made with Fennel.

Of the HEDGE-HOG.

Forasmuch as there be two sorts of Hedge-hogs, one of the Sea, and another of the Land, our purpose in this place is only to discourse of the Land Hedge-hog, the *Hebrews* call him *Kipod*, which in the 14. of *Isa.* and *Zepha.* 2. is so translated by the *Septuagints*; although that some of the *Hebrews* would have it to signifie, a ravening bird, but seeing that I find the word *Kapaz* in most *Hebrew* dictionaries to signifie *Claudere* and *Contrahere*, and that is most proper to shut up and draw together, I do rather believe that the proper meaning thereof is a Hedge-hog, because this beast so draweth it self together, when it is in danger, as we shall hear more at large afterwards, according to the old Verie;

Implicitumque sinu spinosi corporis erem.

The *Arabians* call him *Censud*, or *Coufed*; the *Caldeans*, *Caupeda*; the *Septuagints*, *Mugale*. *Silvaticus* calleth it *Agilium*; *Avicen*, *Adulmus*, and *Aliberba* signifieth a great Mountain Hedge-hog: the *Grecians*, *Cher*, and *Acanthonocos*, or *Echinos*, by reason of the prickles upon his back. The *Latines*, *Echinus*, *Ericius*, *Ricius*, *Herix*, and *Erinaceus*; the *Italians*, *Riccio*, and *Rizo*; the *Spaniards*, *Erizo*, the *Portingals*, *Ouriso*, or *Orizo*, *Cache*, because of hiding themselves; the *French*, *Herison*; the *Germans*, *Igal*, as in lower Germany; in *Holland*, *Een Yseren Verchen*; in *English* a Hedge-hog, or an *Urchine*; by which name we call a Man that holdeth his neck in his bosome: the *Italians*, *Gess*, *Malax*: and the *Illyrians*, *Azwuier*, *Zatbo*, and *Otzischax*. So then for the entrance of our discourse, we take it for granted, that *Herinaceus* and *Echinus* signifie one thing, except one of them signifie that kinde which is like to a Hog, and the other that kinde which is like to a Dog, for they differ in place, or in habitation: some of them keep in the Mountains, and in the Woods or hollow trees, and other about Barnes and Houses: Their place of abode. in the Summer time they keep neer Vineyards and Bushie places, and gather fruit, laying it up against Winter. The quantity.

It is about the bigness of a Cony, but more like to a Hog, being beset and compassed all over with sharp thorny hairs, as well on the face as on the feet: and those sharp prickles are covered with a kind of soft mosse, but when she is angered or gathereth her food she striketh them up by an admirable instinct of nature, as sharp as pins or needles: these are hair at the beginning, but afterwards

The parts.
Hermolans.

grow

grow to be prickles, which is the lesse to be marvelled at, because there be Mice in Egypt (as Pliny saith) which have hair like Hedge-hogs. It hath none of these prickles on the belly, and therefore, when the skin is off, it is in all parts like a Hog.

Albertus.

His stones are inward and cleave to his loins like as a birds, he hath two holes under his tail, to eject his excrements, which no creature living hath besides him. His meat is Apples, Wormes, or Grapes; When he findeth apples or grapes on the earth, he rowleth himself upon them, untill he have filled all his prickles, and then carryeth them home to his den, never bearing above one in his mouth. And if it fortune that one of them fall off by the way, he likewise shaketh off all the residue, and walloweth upon them afresh, untill they be all settled upon his back again, so forth he goeth, making a noise like a cart wheele. And if he have any young ones in his nest, they pull off his load wherewithal he is loaded, eating thereof what they please, and laying up the residue for the time to come.

When they are nourished at home in houses and brought up tame, they drink both milk and Wine: But there is an Herb (called *Potomagon*) whereof if they tast, they die presently.

Their copulation.

When they are in carnall copulation they stand upright, and are not joyned like other beasts, for they imbrace one another, standing belly to belly: but the prickly thornes upon their backs will not suffer them to have copulation like Dogs or Swine, and for this cause they are a very little while in copulation, because they cannot stand long together upon their hinder legs. When the female is to bring forth her young ones, and feeleth the natural pain of her delivery, she pricketh her own belly, to delay and put off her misery, to her further pain, whereupon came the proverb (as *Erasmus* saith) *Echinus parium differt*, the Hedge-hog putteth off the littering of her young; which is also applied against them which put off and defer those necessary works, which God and nature hath provided them



them to undergo; as when a poor man deferreth the payment of his debt, untill the value and sum grow to be far more great then the principal.

The inward disposition of this beast, appeareth to be very crafty and full of subtilty, by this, because (*Lycophron* saith) that *Nauplius* had a cunning crooked wit, and was called by him a Hedge-hog. When they hide themselves in their den, they have a natural understanding of the turning of the winde, South and North, and they that are nourished same in houses, immediately before that change remove from one wall to another; the wilde ones have two holes in their cave, the one North, the other South, observing to stop the mouth against the winde, as the skilful mariner to steer and turn the rudder or sails, for which occasion *Aristotle* saith, that some have held opinion, that they do naturally foreknow the change of weather.

Their inward parts and disposition.

Oppianus.

There is mortal hatred betwixt the Serpent and the Hedge hog, the Serpent seeketh out the Hedge-hogs den, and falleth upon her to kill her, the Hedge-hog draweth it self up together round like a foot-ball, so that nothing appeareth on her but her thorny prickles; whereat the Serpent biteth in vain, for the more she laboureth to annoy the Hedge-hog, the more she is wounded and harmeth herself, yet notwithstanding the height of her minde, and hate of her heart, doth not suffer her to let go her hold, till one or both parties be destroyed.

The enemies to Hedge hogs.

The Hedge-hog rowleth upon the Serpent piercing his skin and flesh, (yea many times tearing the flesh from the bones) whereby he escapeth alive, and killeth his adversary, carrying the flesh upon his spears, like an honorable banner won from his adversary in the field. The Wolf also is afraid of, and flieth from the Hedge-hog; and there is also a story of hatred between the Hare and the Hedge-hog, for it is said, that a Hare was seen to pluck off the prickles from the Hedge-hog, and leave her bald, pieled and naked, without any defence. The Fox is also an enemy to the poor Hedge-hog, and lyeth in wait to kill it, for the proverb is true, *Multa novit Vulpes, Echinus vero unum magnum*; that is to say, the Fox knoweth many devises to help himself; but the Hedge-hog knows but one great one, for by rowling up her self (as before said) she opposeth the thorns of her back, against the Foxes teeth: which alone were sufficient to secure her from a greater adversary; but the wily Fox perceiveth that he can no where fasten his teeth without danger of himself, pisseth upon the Hedge-hogs face and poisoneth her: whereupon the poor beast is forced to lay open himself, and to take breath against the Foxes stinking excrement: which thing the Fox espying, loseth no opportunity, but presently teareth the Hedge-hog in pieces; thus the poor beast avoiding the poison, falleth into the mouth of her enemy.

The manner of Hedge-hogs is, that whensoever they are hunted by Men, they draw up their legs and put down their head to the mossie part of their belly, so as nothing of them can be taken but their prickles: and perceiving that shift will not serve the turn, but their case growing desperate, they render out of their own bodies a certain urine hurtful to their skin and back, envying that any good thereby should ever come to mankind; and therefore seeing they naturally know the manifold uses of their own hides, here is the cunning of her hunting, to cause her first of all to render her urine, and afterward to take her, for the urine maketh the thornes of her back to fall off every day, and therefore they take this course for their last refuge. But in these cases the Hunters must poure upon the Hedge-hog warm water, for feeling warmth she presently unfolds her self, and lyeth open; which the Hunter must observe, and instantly take her by one of her hinder legs, so hanging her up till she be killed with famine; otherwise there cometh no benefit by her taking.

With the same skin flead off, brushes are made for garments, so that they complain ill which affirm, that there is no good or profitable condition coming to mankind by this beast. Again this is to be reserved and used for dressing of flax (as *Massarius* saith) and also it is set upon a Javeline at the dore to drive away Dogs. In ancient time they did not eat the flesh of Hedge-hogs, but now a dayes men eat thereof, (of them which are of the swinish kind) When the skin is off their bodies, they scald it a little in Wine or Vinegar, afterward lard it and put it upon a spit, and there let it be roasted, and afterwards eaten, but if the head be not cut off at one blow, the flesh is not good.

Caelius.

The eating of their flesh.

The Epithets belonging to this beast are not many; it is called red, sharp, marine, volible, and rough, whereupon *Erasmus* said,

Ex hirco in levem nunquam mutabis Echinum.

And thus much for the natural and moral parts of this beast. Now followeth the medicinal. Ten sprigs of Lawrel, seven grains of Pepper, and of *Opopanax* as big as a Pease, the skin of the ribs of a Hedge-hog, dried and beaten cast into three cups of Water and warmed, so being drunk of one that hath the Colick, and let rest, he shall be in perfect health; but with this exception, that for a man it must be the membrane of a male Hedge-hog, and for a woman a female.

The medicinal parts of Hedge-hogs. *Actius.*

The same membrane or the body of all Hedge-hogs burnt to ashes, hath power in it of cleansing, digesting, and detracting, and therefore it is used by Physitians for taking down of proud swelling wounds, and also for the cleansing of Ulcers and Boiles, but specially the powder of the skin hath that virtue; also it being roasted with the head, and afterwards beat unto powder and anointed on the head with hony, cureth the *Alopecias*.

Rasis.

Marcellus. The same powder restoreth hair upon a wound if it be mingled with Pitch, and if you add thereunto Bears grease, it will restore unto a bald man his head of hair again, if the place be rubbed untill it be ready to bleed. The same powder cureth the Fistula, and some mingle red Snails with this dust, applying it in a plaister to Ruptures and Swellings in the cods, and being mingled with oil by anointment, it taketh away the burlles in the face, and being drunk in wine is a remedy against the pains of the reins or the water betwixt the skin and the flesh.

Ælianus. A suffumigation made of a Hedge-hogs skin, under them that have their Urine stopped, by Gods help (saith my Author) the stopping shall be removed, if it proceed not from the stone, nor from an impostume. The flesh salted, dried, and beat to powder, and so drunk with sweet Vinegar, helpeth the pain in the reins, the beginning of Dropsies, Convulsions, and Leprosies, and all those affections which the Grecians call *Cachectæ*. The Mountain Hedge-hog is better then the

Dioscorides. domestical, having prickles like Needles points, but legs like to the other: the meat is of better taste, and doth more help to the stomach, softning the belly, and provoking the Urine more effectually, and all this which is attributed to Hedge-hogs is much more powerful in the Porcupine.

The Hedge-hog salted and eaten is good against the Leprosie, the Cramp, and all sickness in the Nerves and Pitsick and pain in the belly, rising of windiness and difficulty of digestion: the powder anointed on Women with childe, alwayes keepeth them from abortment. The flesh being stale

Marcellus. given to a mad Man, cureth him; and being eaten keepeth one from the Strangury; also being drunk in wine, expelleth the stone in the bladder, and is good against the Quotidian Feaver, and the bitings of Serpents. The fat of a Hedge-hog stayeth the flux of the bowels: If the fat with warm

Avicen. water and hony be gargarized, it amendeth a broken and hoarse voice; the left eye being fryed with Oil, yeeldeth a liquor which causeth sleep, if it be infused into the ears with a quill. The gall with

Albertus. the brain of a Bat and the milk of a Dog, cureth the reins; likewise, the said gall doth not suffer uncomely hairs to grow again upon the eye-browes, where once they have been pulled up. It maketh also a good eye salve.

Warts of all sorts are likewise taken away by the same; the milt sod and eaten with meat, it healeth all pains in the milt, and the reins dried are good against a Leprosie or Pitsick coming by Ulcer, or the difficulty of Urine, the Bloody flux and the Cough. The dung of a Hedge-hog fresh, and *Sandaracka* with Vinegar and liquid pitch, being layed to the head, stayeth the falling away of the hair.

Pliny. When a man is bitten with a mad Dog, or pricked with prickles of a Hedge-hog, his own Urine laid thereunto with a sponge or wool, is the best cure: or if the thornes stick in the wound of his foot, let him hold it in the warm Urine of a Man, and it shall easily shake them forth: and *Albertus* and *Rasis* affirm, that if the right eye of a Hedge-hog be fryed with the oil of *Alderne* or Linseed, and put in a vessel of red brasse, and afterward anoint his eyes therewith, as with an eye-salve, he shall see as well in the dark as in the light. And thus I will conclude this discourse with one story, that a Hedge-hog of the earth was dedicated to the good God among the foolish *Pagans*, and the water Hedge-hog to the evil, and that once in the City of *Phrygia* called *Azanium*, when a great famine troubled the inhabitants, and no sacrifice could remove it; one *Euphorbus* sacrificed a Hedge-hog, whereupon the famine removed, and he was made Priest, and the City was called *Traganos* upon the occasion of that sacrifice.

Of the HORSE.

WHEN I consider the wonderful work of God in the creation of this Beast, enduing it with a singular body and a noble spirit, the principal whereof is a loving and dutiful inclination to the service of Man; wherein he never faileth in Peace nor War, being every way more neer unto him for labour and travel: and therefore more dear (the food of man only excepted) we must needs account it the most noble and necessary creature of all four-footed Beasts, before whom no one for multitude and generality of good qualities is to be preferred, compared or equalled, whose commendations shall appear in the whole discourse following.

The several names of Horses.

It is called in *Hebrew*, *Sus*, and a Mare *Susab*, the which word some derive from *Sis*, signifying Joy; the *Syrians* call it *Rekesb* and *Sousias*; the *Arabians*, *Ranica*; and the *Caldeans*, *Ramakim*, *Susu-atha*; the *Arabians*, *Bagel*; the *Persians*, *Asbaca*; the *Grecians*, *Hippos*, and at this day *Alogo*; the *Latins*, *Equus*, and *Caballus*; the *Italians* and *Spaniards*, *Cavallo*; the *French*, *Chevall*; the *Germanes*, *Koffz*; the *Bohemians*, *Kun*; the *Illyrians*, *Kobyla*; the *Polonians*, *Konii*.

The derivation of sundry names.

It is also profitable to consider the reason of some of these names, both in the *Latin* and *Greek* tongue; and first of all *Equus* seemeth to be derived, *Ab equalitate*, from equality; because they were first used in Charets and draughts, and were joyned together being of equal strength, legs and stature; *Caballus* seemeth to be derived from the *Greek* word *Caballes*, which was a common name for ordinary Hackney-horses, and Horses of carriage, whereupon *Seneca* commendeth *Marcus Cato*, that in his triumph of Censorship, *Uno Caballo contentum et ne toto quidem, partem enim sarcinæ ab utroque latere dependentes occupabant*; that is to say, that he was contented with one Horse for his own saddle, and yet not totally one neither, for the packes that hang on either side of him, possessed the greatest



greatest part, and the true derivation of this word, seemeth to accord with *Caxe*, which signifyeth a manger, and *Alu* abundance, because riding Horses are more plentifully fed, and these Horses were also used for plowing, according to the saying of *Horace* ;

Optat ephippia bos piger, optat arare Caballus.

The *Grecians* call it *Hippos*, which seemes to be derived from standing upon his feet, and this beast only seemeth to be one of the number of them, which are called *Armenta*.

Claudian.

And besides all Histories are filled with appellative names of Horses, such as these are, *Alastor*, *Aetbon*, *Nictens*, and *Orneus*, the Horses of *Pluto*. *Aetha* a Mare of *Agamemnon* remembred by *Homer*. *Aethion*, *Statio*, *Eous*, *Pblego*, *Pyrois* ; the Horses of the Sun : *Lampus*, *Podargus*, *Xampus*, *Arnon*, the Horses of *Erymus*: by whose aid *Hercules* is said to overcome *Cygnus*, the Son of *Mars*: *Balius*, *Xanthus*, and *Podasus*, the Horses of *Achilles*. *Boristenes*, for whom *Adrianus* made a grave (as *Dion* writeth) *Bromius*, *Cerus*, *Calydon*, *Camphasus*, *Cnapius*, *Corithe*, and *Herpinus*, two names of *Britain* Horses cited by *Martial* and *Gillius*. *Cylarus*, the swift Horse of *Castor*, *Dimos*, and *Phobos*, the Horses of *Mars*. *Enriole*, *Glaucus*, and *Sthenon*, the Horses of *Neptune*, *Parthenia*, and *Euripha*, Mares belonging to the *Centaur*s of *Hippodamia*, slain by *Ornomaus*. *Harpe*, another Mare. *Phœnix*, and *Corax*, the Horses of *Elesthenes*. *Epidaminus*, who wan the prizes in the sixty sixth *Olympiad*, and caused a statue to be made in *Olympus*, and his said Horses and Chariot called *Pantarcēs*, and beside these, other *Cnaci* and *Samus*.

Also *Podarces*, *Rhæbus*, *Strymon*, *Tagus*, *Theron*, *Thoes*, *Volneris*, which was a Horse of *Prasimum*, and it is reported, that *Verus* the Emperor so much affected this Horse, that he not only caused him to be brought into his own Palace, and to have his meat alway given in his presence, but made of him a picture with a manger, wherein were Grapes and Corn, from whence came the first Golden Horses or prizes of Chivalry ;

*Primus equum volucrem Massyli munera regis
Haud spernenda tulit : —————*

Unto these may be added the affected names of Poets in love of their favorites, as *Rholandus*, *Vegianinus*, *Baiardus*, the Horse of *Rainaldus*, *Rubicanus* of *Argalifas*, *Hippogryjus* of *Rugierus*, *Frontinus* and *Fratalius* of *Sacrapan*, and *Rondellius* of *Oliverius*.

The Epithets
of Horses.

The Epithets that belong to Horses, are either general or particular, the general may be rehearsed in this place, such as these are following ; brasse-footed, continual, horn-footed, sounding-footed, foming, bridle-bearer, neighing, maned, dusty, four-footed, fretting, saddle-bearing, watery, or sweating, whole-footed ; and many such others both among the *Greeks* and *Latins*, which howsoever they may contain divers Allegories in them, and therefore may seem to be figuratively fed down, yet I thought good being of other opinion to reckon them in the beginning, that so the Reader may consider, that I would be unwilling to omit any thing in this story, which might any way tend to the dignity of the subject we intreat of, or the expressing of his nature. Wherefore we will first of all begin with the description of the natural parts of a good Horse.

The natural
outward and
inward parts
of Horses.

The hair of a Horse falleth off every year, the neather eye lid or brow hath no long hairs growing upon it, and therefore *Nicon* that famous painter of *Greece*, when he had most curiously limbed forth a Horses perfection, and faild in no part of nature or art, but only in placing hairs under his eye, for that only fault he received a disgraceful blame.

Ælianus.

The hair of the manes ought to be long, that part which groweth betwixt the ears, upon the Temples, hanging down betwixt the eyes, the *Grecians* term *Procomion*, the *Latins*, *Caprona*, and in *English* it may be called a fore-top, which is granted to Horses not only for ornament sake, but also for necessity to defend their eyes. The Horses are naturally proud of these locks and manes, as may appear by those Mares which are kept for procreation of Mules, by copulation with Asses, which at the first despise to ingender with those shaveling and short haired Stalions. Wherefore their keepers shave off their manes, and their fore-tops, afterwards leading them to the waters, wherein while the Mares behold their own deformity, they grow so shamed, dejected, and discouraged, that ever after they admit with quietness the Asses to cover them. Therefore it is never good to cut the mane or the fetter-locks, except necessity require, for the mane and fore-top is an ornament to the neck and head, and the fetter-locks to the legs and feet : and he that keepeth Horses must as well regard to have them comely for outward grace, as strong and able for necessary labour. Many use to cut the necks of their riding Horses, even as they do of their drawing Horses, which thing although it may seem to be done for greater encrease, and farther growth of hair, yet is it unseemly for an honest rider : some again cut it to stand compass like a bow, and many use the *Armenian* fashion, cutting the Mane by rowes, leaving some longer then other, as it were the batlements of a Church ; but the best fashion of all is the *Persian* cut, whereby the one half of the thickness is cut away on the left side, and the other on the right side smoothly turned over and combed, according to the saying of *Virgil* :

Densa juba & dextro jactata recumbit in armo.

But

But if the Horse be double maned, and so the hair fall half on the one side, and half on the other, then cut all the middle hairs away, and leave both the sides whole: for such was the intention of the Parthians. In a Colt or young foal, the hinder part is higher then the forepart; but as he grows in years, so likewise the forepart groweth higher then the hinder.

This beast hath two bones in his head, and other two descending from his forehead to the Nostrils; two inferiour Gumbes, or cheek-bones, forty teeth, that is to say, four and twenty grinders, four canine, and twelve biting teeth; there are seven crosse ribs in his neck, and seven from his reins to his hole, his tail hath twelve commissures, and two *Ragule* in his fore-shoulders, from his shoulders to his legs other two, from his legs to his knees two more, in his knees there are two supporters, and from the shin to the Articles two more, there are sixteen small bones in the bottom of his hoof, and but one in his brest, in the inward parts there are six and twenty ribs, from the hinder parts to the top of his reins, the two grinding bones; and from them to the hinder part of the head there are two more, and two little ribs from the upper part of the thigh to the *Gamba*, and from thence to the hairs of the pasterns, there are two, and the little ones to the hooves sixteen; so all the bones in number are accounted a hundred and seventy.

Now it followeth to declare the measure and number of the members; there are twelve steps or degrees in the roof of his mouth, his tongue is half a foot long, the upper lip hath twelve inches, the under lip five, every one of the cheeks ten: from the fore-lock to the Nostrils he hath one foot in length, his two ears contain six inches, and his eyes four inches a piece. From his fore-lock to the *Mercurius*, there are contained eight inches, the back-bone containeth three and thirty crosse ribs. From the convulsion of the reins to the top of the tail, are twelve commissures, the length of his *Sagula* containeth also twelve inches, from his shoulders to his legs six, from his legs to his knees a foot in length, from the Articles to the hoofs four inches, in his whole length six feet. And this is the stature of a couragious and middle Horse, for I know there are both bigger and lesser.

The quality and the measure of the nerves or sinews is this; from the middle nostrils through the head, neck and back-bone, is a dubble file or threed to the top of the tail, which containeth twelve foot in length. The two broad sinews in the neck do contain four-foot, from the shoulders to the knees, there are two sinews, from the knee to the bottom of the foot there are four sinews, in the fore-legs there are ten sinews, in the hinder-legs there are other ten sinews, from the reins to the stones there are four sinews, so the whole number amounteth to thirty four. Consequently the number of the veins is to be declared. In the palat or roof of the mouth, there are two veins, under the eyes other two, in the brest other two, and in the legs other two, four under the pasterns, two in the ancles, four in the crown of the pasterns, four out of the thighs, two out of the loins, two out of the Gambas, one out of the rail, and two in the womb or Matrix, so the whole number is nine and twenty.

There are certain veins above the eyes which are divided in Horses, wherein they are let blood, by making to them small incisions, the blood also is taken out of the veins, in the palat or roof of the mouth. There was an ancient custome of letting Horses blood upon Saint Stevens day, by reason of many holy dayes one succeeding another, but that custome is now grown out of use. Also some take blood out of the Matrix veins, but that is not to be admitted in Geldings, because with their stones they lose a great part of their heat, excepting extream necessity, but out of the palat blood may be let every moneth, and stallions when they are kept from Mares if the vein of their mouths be opened, fall into blindness, although it is no good part of husbandry to let them bleed that year, wherein they admit copulation, for the vacuation of blood and feed, is a double charge to nature.

But the Organical vein of the neck, is the best letting of blood, both in stoned and gelded Horses. The later Leaches make incision in the great vein called *Fontanella*, and in *Inen Thymus* or *Jugula*. The eyes of a Horses are great or glasse, and it is reported by *Augustus*, that his eyes were much more brighter then other mens, resembling Horses: these eyes see perfectly in the night, yet their colour varieth as it doth in Men, according to the caprine and glazie humour. And sometimes it falleth out, that one, and the same Horse hath two eyes of distinct colours. When the eyes of a Horse hang outward, he is called *Exophthalmos*. Such fair eyes are best, for *Bucephalus* the Horse of *Alexander* had such eyes, but when the eyes hang inward, they are called *Cæloph-Thalmoi*, and the *Parthians* count them the best Horses, whose eyes are of divers colours, and are therefore called *Heteroph-Thalmoi*, because the breed of that Horse was said to take the beginning from the *Parthians*, and the reason why the people loved not these Horses, was, because they were fearful, and apt to run away in wars.

The ears of a Horse, are tokens and notes of his stomach, as a tail is to a Lion, his teeth are changed, yet they grow close together like a mans. It is a hard thing for a Horse to have a good mouth, except his stallion teeth be pulled out, for when he is chafed or heated, he cannot be held back by his rider, but disdaineth the bridle: wherefore after they be three year and a half old, those teeth ought to be pulled forth. In old age, a Horses teeth grow whiter, but in other creatures blacker.

A Mare hath two udders betwixt her thighs, yet bringeth forth but one at a time: many of the Mares have no paps at all, but only they which are like their Dams. In the heart of a Horse there

there is a little bone, like as in an Oxe, and a Mule; he hath no gall like Mules and Asses, and other whole-footed-beasts, howsoever (some say) it lyeth in his belly; and others, that it cleaveth to his liver, or to the gut-colon: The small guts of a Horse lie near that gut, that so one side of his belly may be free and full of passage; and from hence it cometh, that the best Horses, when they run or travel hard, have a noise or rumbling in their belly. The Hip-bone of a Horse is called by some the haunch, as the *Arabians* say; the tail (because therewith he driveth away flies) is called *Muscarium*, it ought to be long, and full of hairs. The legs are called *Gamba* of *Campo*, signifying treading: the hoofs of a Horse ought neither to be high nor very low, neither ought the Horse to rest upon his ankles, and those Horses which have straight bones in the Articles of their hinder knees, set hard on the ground, and weary the Rider: but where the bones are short in the same places, as they are in Dogs, there the Horse also breaketh, and woundeth one leg with another; and therefore such Horses are called *Cynopode*. They have also quick flesh in their hoofs, and their hoofs are sometimes called horns, upon which for their better travel, men have devised to fasten iron plates or shooes. This hoof ought to be hard and hollow, that the Beast may not be offended, when he goeth upon stones; they ought not to be white, nor broad, but almost kept moist, that so they may travel the better, having strong feet, hard and sound hoofs, for which cause the *Grecians* call them *Eupodes*.

The Horses of
divers Nati-
ons.

Forasmuch as it is requisite for every man to provide him Horses of the best race, and their kinds are divers in most places of the world, so the couriers of Horses do many times beguile the simpler sort of buyers, by lying and deceitful affirmation of the wrong Countreys of the best Horses, which thing bringeth a confusion: for there are as many kinds of Horses as Nations. I will therefore declare severally the Countreys breeding the Horses, for the Region and air maketh in them much alteration, that so the Reader may in a short view see a muster of Horses made of all Nations. The Wilderness of *Acarmania*, and *Etolia* is as fit for feeding Horses as *Thessaly*. The Horses of the *Greeks*, *Armenians*, and *Trojans* are fit for war, of the *Greekish* I will speak more afterward.

Oppianus.

Apollonius.
Horses with
horns and
wings.

Alexandria was wont to take great delight in Horses, and combates of Horses: *Apollonius* writeth *Lib. 5. Ethiopia* (as it is reported) breedeth Horses having wings and horns. *Varro* commendeth the *Apulian* Horses, and *Volaterranus* writeth, that they and the Horses of *Rosae* are most fit for war: he meaneth above all the Horses of *Italy*. There have been very fruitful pastures in *Arcadia* for cattle, especially for breeding Horses and Asses that are Stallions, for the procreation of Mules, and the breed of the *Arcadian* Horses excelleth. The same man preferreth the Horses of *Thessalia* and the *Greekish* Horses, for they are sound of their feet and head, but not of comely Buttocks, they have their back bone whole, great and short.

Ruellius.
Absyrus.

The latter two I might have referred to the whole body of the Horse. The Horses of *Armenia* are very necessary and convenient for war, for they and the *Capadocians* do breed of the *Parthian* Horses, saving their heads are somewhat bigger. Of the *Hackney* or common Horses, I will say more afterward, where I touch the difference of Horses, and of their pace. The *Barbarian* Horses are the same as the *Lybian* Horses. *Vegetius* commendeth the Horses of *Toringa* and *Burgundia*, after them of *Vonusei*. *Britain* breedeth little Horses and Amblers. Of Horses that are celebrate of the *Calpian* Mountain: See in the *Spanish*. The Horses of *Cappadocia* and *Armenia* have the breed of the *Parthians*; but their heads are bigger, and are of a most famous Nobility, for that Countrey before any other land, is most commodious for the nourishing of Horses, according to the verses of *Nemesian*:

Vegetius.

*Cappadocumque notas referat generosa propago
Armata, & palmas nuper grex omnis avorum.*

Strabo.

The *Cappadocians* do pay to the *Persians* every year, beside silver, a thousand and five hundred Horses, &c. The *Medes* have the double of these, and they sur-name the *Cappadocians* Horses famous and swift; for he saith, that whiles these are young, they are accounted weak by reason of their young teeth, and their body feeding on milk; but the older they grow, so much the swifter they are, being very courageous, and apt for war and hunting, for they are not afraid of weapons, neither to encounter with wilde Beasts. *Mazaca* is a City of *Cappadocia*, situate under the Mountain *Argæus*, now called *Cæsarea*, as *Eusebius* remembreth in his *Chronicles*, and from that City cometh the *Mazacenian* Horse, for the *Cappadocian* Horse. And not only the Countrey, but the City it self sometime was called *Cappadocia* from this City or walled Town, I suppose the Horses of *Mazaca* were so called, which *Oppianus* calleth *Mazaci*, of these also and more, I will set down these verses of *Nemesian*:

Suetonius.

*Sit tibi præterea sonipes, Maurusia tellus
Quem mittit, modo sit gentili sanguine firmus,
Quemque coloratus Mizax deserta per arva
Pavit, & assiduos docuit tolerare labores.
Ne pigeat quod turpe caput, deformis & alvus
Est illis, quodque infrenes, quod liber uterque,
Quodque jubeis pronos cervix diverberet armos.
Nam flecti facilis, lascivaque colla secutus
Paret in obsequium lenta moderamine virge.*

*Verbera sunt præcepta fuge, sunt verbera freni.
Quin & promissi spatiosa per æquora campi,
Cursibus acquirunt commoto sanguine vires,
Paulatimque avidos comites post terga relinquunt.
Haud secus effusis Nerei per cæcula ventis,
Cum se Threicius Boreas super extulit antro, &c.
Horum tarda venit longi fiducia cursus:
His etiam emerito vigor est juvenilis in ævo.
Nam quæcunque suis virtus bene floruit annis,
Non prius est animo quam corpore passa ruina.*

And

And peradventure *Nemfianus* understood certain Horses of *Lybia*, by the name of the *Mazacian* Horses, when as he joyns them with the *Maurasian* Horses, and calls them painted *Mauzacian* Horses, which agreeth not with *Cappadocian*; writing also, that they are ruled with a stroke of air in stead of a bridle, which thing we have read in Authors writing of the *Massilian* Horses, in the Countrey of *Lybia*, and whereof we will speak when we discourse of the *Lybian* Horses. But the *Cappadocian* Horses are swift and lusty in their old age, as it is related by *Oppianus*. Again, if *Mazacian* Horses be the same that the *Cappadocian* are; what is the reason why *Oppianus* doth name them apt, unless peradventure every *Mazacian* Horse is a *Cappadocian*, and not otherwise? The Horses of *Chalambria*, are so named of a place in *Lybia*; the *Chaonian* Horses are the same with the *Apriolan* Horses. The *Colophonians* and *Magnetians* do bestow great labour in breeding of Horses; for the *Colophonians* dwell in a plain, as I have read in a certain Greek Author. *Strabo lib. 14.* writeth, that the *Colophonians* in times past did abound with Sea-forces, and have much excelled in Horse-men; that wheresoever in any Nation there was waged war, they hired and required the aid of the *Colophonian* Horse-men, and so it was made a common Proverb: *Colophonem addidit. Erasmus.* The Horses of *Crete* are commended by *Oppianus*, and elsewhere. From their loins upward they are as big as the *Cyrenian* Horses, with well set thighs, excellent for the soundness of their feet, and holding their breath a long time in riding, and therefore fit for single races or in Chariots.

The *Epean* Horses are remembred of *Oppianus*, and the *Epeans* are a people of *Achaia*, and the *Achaian* Horses are commended of the same. The *Lipidanean* kinde of Horses is more excellent, and he preferreth the *Thessalian* Horses before those of *Epidauria*, but the *Epicotian* Horses are biting and stubborn: *Abfyrus* saith, that the *Epicotian* Horses and the *Samerican* and *Dalmatian*, although they are stubborn and will not abide the bridle, and besides are base and contemptible, yet they are bold in war and combats, and therefore the *Epicotian* Horses and the *Sicilian* despise not, if their qualities and comely parts be apparent in them, although sometime he hath run away from the enemy, as the Poet saith:

*Quamvis sepe fuga versos ille egerit hostes,
Et patria Epirum referat.*

Epiria and *Chaonia*, is also a part of *Epirus Alpestrian*, although sometimes it be taken for the whole Countrey of *Epirus*. The Horses of *Chaonia* are commended, as *Gratius* remembreth, writing of the *Sicilian* Horses, in these verses to this effect, that no man hath presumed to strive with the *Chaonians*, and the *Achaian* hand doth not expresse their deserts:

*Queis Chaonias contendere contra
Ausit, vix merita quas signat Achaia palma.*

There are people of *Arabia* called *Erembi*, which some call *Ichthyophagans*, and *Troglodytans*. *Vegetius* *Oppianus*. in the third place commendeth the *Frygian* Horses for swiftnes, and long continuance of course, after the *Hunnian*, *Burgundians*. The *French* Horse is the same that the *Menapians*, and *S. Hierom* writeth, that worldly men are delighted with the *French* Geldings; but *Zacharias* As loosd from his hands, rejoyceth good men. *Lucius Apuleius* hath commended the *French* Beasts, for if the young sole be derived of a generous kinde, it is an argument it will prove a Noble Beast.

The *Gelanoian* Horses are a kinde of base Horses, not fit for war; whether this name proceed of a strange Countrey, I have no certain knowledge thereof. There is a certain River in *Sicilia* called *Gelas*, of which Countrey the Horses are of great value and much set by. And also the *Gelons* are a people of *Scythia*, who in their flight fight upon Horses, of which *Lucanus* writeth to this effect:

*Massagetes quo fugit equo, fortesque Geloni: And Virgil,
Bisalta quo mare solent, acerque Gelonus,
Cum fugit in Rhodopen, aut in deserta Getarum,
Et lac concretum cum sanguine potat equino.*

Signifying thus much, that the *Massagetes* & valiant *Gelons* fly away upon Horses like the *Bisaltians*, when they fly into *Rhodope*, or into the Wilderness of the *Gelans*, and drink milk mixed with Horse-bloud for hunger and famine: But these fearful Horses are not meet for war. *Germania* hath greater Horses and hard trotters, whose pace is very hard and troublesome. The *Getican* Horses run most swiftly. The Horses of the *Greeks* have good sound broad feet, and of a great body, a comely fine head, their fore-part somewhat high of stature, straight and well compacted, and of a well fashioned body, but the joyning of their buttocks not so agreeable and answerable to the rest: they are most swift and courageous, yet notwithstanding in all Greece the *Thessalian* Horses are most esteemed; *Nemesianus* writeth also of the *Greekish* Horses: Greece therefore yeeldeth choice Horses, and well hoofed. In *Helvetia* the Horses are fitted, and very expert in war, and especially the *Algecian* Horses, which will last and continue a long time.

In *Spain* also the Horses are of a great stature of body, well proportioned and straight, having a fine head; the joynts of their bodies very well divided, set apart, and ready or flexible simple and short buttocks, but not very strong and comely. They are strong and able to sustain the undergoing

Ruelius.

or compassing of journeys; neither are they slender bodied or subject to leanness; but they are nothing nimble for course, as shall appear by the words of the Authors following, neither are they spurred when they are ridden: from their growing even to their middle age, they are pliant, and easie to be handled, afterward they wax wilde and biting. The *Cappadocian* Horse is renowned, the like, or the next triumph or victory have the *Spanish* Horses in running the ring. Neither doth *Sivilia* yeeld Horses inferior for the ring then those: and *Africa* is accustomed to bring forth the most swift Horses by copulation with the *Spanish* blood to the use of the saddle.

Oppianus saith that their *Iberian* Horses are more excellent, and do so much surpass other Horses in swiftness, how much the Eagle or the winding Hawk in the air, and the Dolphin in the Sea, excelleth other birds and fishes; but they are small, and of little strength, and no courage: although *Abjrtus* affirmeth (if you read him well) that they are of a great stature of body, they being rid but a little way do lose their swiftness of pace: they are of a comely body; but their hoofs are not hollow or hard.

Camerarius.

The *Spanish* Horses are desired of great Princes and Peers, and the *Magnates*, because their opinion is, that they are swift and nimble; and out of *Spain* they are respected for lightness and elegancy. The judgement of the Ancients for the general breed of Horses, was this; that the greatest Horses are bred from the third Climate, to the end of the sixth; and most of all in *Spain*: yet we have seen stronger and bigger Horses bred in the seventh Climate, and those more able to endure labour then those that are under the third or fourth climate.

Albertus.

The Horses of the *Celtiberians* somewhat a dusky colour: and they change if they be transported into the farther *Spain*; and the *Arabian* Horses are like them in regard they excel in nimbleness and dexterity of running, whereof *Martial* writeth thus, *Videbis altam Liciane Bilbilim, equis & armis nobilem*: which *Bilbilis* is a City of *Celtiberia*. Of the *Callacians* and *Gennets*, we will speak also in the *Spanish* Horses that are bred in the *Calpian* Mountain, afterward, when we entreat of the differences of Horses according to their degree.

Strabo.

The *Huns* bring up their Horses hardly, able to endure cold and hunger, and they have great and crooked heads, staring eyes, strait nostrils, broad chaps, and strong and rough necks, and long manes down to their legs; great ribs, straight backs, bushy tails, strong shanks or legs, small feet, full and wide hoofs, their flanks hollow, and their whole body full of holes. There is no fatness in their hanch or buttocks, they have no strings in their sinews or arteries, and they exceed in length more then in height, having great bellies hanging down, big-boned, and leanness (which is a deformity in other Horses) in these it sheweth their stateliness: their courage is moderate and wary, and these are able to endure wounds. These *Hunnian* Horses elsewhere he calleth them *Hunnian* Horses, and the same in times past *Huns*: but they are called now a days *Ungarian* Horses.

Vegetius.

The Companies or Armies of *Huns*, wandering up and down with most swift Horses, filled all things with slaughter and terrour. They are biting and kicking Horses, as most *Pannonicks* are, (for they call *Pannonia* at this day *Hungaria*) of which there is a Proverb of Malignity sprung up, *Non nisi irritati opinione aut offensa metu ferociant*: that is to say; They wax not stern, or rage not, but either by opinion, or fear of offence, affirming that the *Pannonians* are very fit for War. There is not any that can hold and constrain or draw the bridles in, or loose them forth, that rideth an *Indian* Horse when he pranseth and runneth violently, but such a one that hath been trained up from his childehood in the skill of Horses: these men have accustomed to hold them with the bridle, and also to break their wilfulness by snaffles or bits, and those that are well skilled in handling Horses, do compell them from their unruliness, as restrain them within a small circuit. Yet notwithstanding to make this circle and finish it, it requireth the help of hands, and it is a great skil belonging to Horsemen.

Ælianus.

They which are most skilful of this Art, and cunning doers of it, know very well how to bring their course into a circle, whose compass is not to be regarded chiefly when it can bear but two Souldiers fighting together at one time. There are among the *Indian Psyllans* (for there are also other *Africks* of that name) Horses bred no bigger then Rams, and they say that in *India* there are Horses with one horn, of which horn drinking cups may be made, having this vertue in them; that if you put poyson into them, and a man drink thereof, it shall not hurt him, because the horn doth drive away or expell the evill or poyson. Whereof you shall see more at large in the History of *Monoceros*: and *Ælianus* himself elsewhere, and *Philes* following him, write the same thing of a cup made of the horn of an *Indian* Ass, having one horn.

Oppianus.

The *Istrian* Horses are of good able feet, very straight, whole backt, and hollow; but swift of course. The *Moore* Horses (saith *Oppianus*) are most excellent, as well to hold out long courses, as also to endure hard labours: the *Lybian* next unto these are of a most durable celerity: they are shaped alike, except that the *Lybian* Horses are big, and of a longer body, having thicker ribs and sides, and their brest is larger before on their crest; they can easily abide the heat of the Sun and daily thirst.

Africa hath been accustomed to put the most swiftest Horses of the *Spanish* brood to the use of the saddle: (and *Livius* saith) in lib. 23. that it was a custom to the *Numidians*, being in battel, to lead two Horses together, and in manner of vauers oftentimes, in the most sharp conflict could leap from the weary Horse to a fresh, (so great was the dexterity of the rider, and the docibility of the beast.) From *Tunis* of *Africa*, *Maffalia*, and *Numidia*, there are also brought very singular Horses,

passing

passing for running, which the common people call *Barbary* Horses. The *Massylians* (a people of *Lybia*) have very good Horses, which they govern with a rod without a bridle, from whence *Virgil* in his fourth of his *Aeneidos*, calleth them untamed and wilde *Numides*: and *Silius* saith also, the *Numides* a Nation having no skill of the bridle, do leap up and down, here, and there, and every where:

*Hic passim exultant Numidæ gens inscia freni,
Quis inter geminas per ludum nobilis aures
Quadrupedem flectit non cedens virga lupatis.*

Also the rod rules the *Massylian* Horse: the same *Nemesianus* writeth of those which he calleth *Mazacians*, (as I have before spoken of the *Cappadocian* Horses) The *Doricadian* Horses though they are of a marvellous swiftness, yet they are inferiour to the *Lybian* Horses in running. The *Lybian* Mares are taken with a pipe, and by these allurements they are made tame and leave off all wilde qualities, and whithersoever the pipe shall allure them, thither they follow, and the Shepherd when he stands, they leave off marching forward; and if he sing more pleasantly, they are delighted with it, that they cannot hold tears. The Shepherds of these flocks, make their Shepherds pipe of the tree (called *Rhododaphnus*) the sound whereof delighteth those that go before the herd. *Gratius* also writeth to this effect;

*Fingit equos Pifis Numidæ, &c. ———
Audax & patiens operum genus ille: vigebit
Centum ætus spatiis, atque elusabitur iram,
Nec magni culius sterilis quodcunque remisit
Terra sui, tenuisque suis producere rivi.*

Although the place be not perfect, yet that that is spoken concerning the *Numidian* and *Lybian* Horses, is manifested as well by the words of *Oppianus* before recited, as also by that which *Ælianus* setteth down: for (saith he) I have heard these things touching the *Lybian* Horses of the men of that Nation, that of all other Horses they are the swiftest, and that they have no sense of their labours, being lank by reason of their slenderness and thinness of their shape, and are wholly of themselves fit to endure their masters negligence, for their masters give them no meat or fodder, neither doth any man rub or dress them with the curry-combe after they have laboured or travelled: neither do they lay any litter or straw for them to ly on, nor pare their hoofs, but so soon as they have ended their journey, leaping off their backs, they turn them to seek their food, and in like manner the men of *Lybia* worn with leanness, and all besmeared with filth, do ride on Horses of this sort.

The Horses and Oxen of *Africa*, which dwell between *Getulia* and us, are as ours, that is, having longer lips, (the Interpreters translate it hoofs.) Their Kings take delight in troops of Horses, so that there are numbred to him every year four hundred thousand Colts.

The *Chalambrian* *Lybians* are before spoken of, and the *Nasavians* we will speak of hereafter. *Barbary* breedeth very few Horses; but the *Arabians* which inhabit in the Desert, and the people of *Lybia* do breed very many, and they do not so much accustom them to journeys and warfare, as to hunting, and feeding them with Camels milk only twice a day and night, whereby they keep them fine, but very lean, and in the time of grafs they turn them out to feed in the field, but they ride not on them.

The Horses of *Massyilia* are equal with the *Lybians*. The people of *Magnetia* have been renowned in feeding and bringing up Horses, and they are very skilful in combate on Horse-back (as *Lucanus* saith.) The *Magnetians* are famous for Horses, and the Nation of *Nycæa* for Oars: *Magnetia* is a countrey of *Macedonia*, bordering upon *Thessaly*, so the City and Countrey of *Asia* lyeth toward *Meandrus*. *Oppianus* commendeth the *Magnetian* Horses. The *Moors* fight often on Horse-back with Spears, but their Horses are naked, and their bridles made of rushes.

The *Massylians* following the *Lybians*, (for the most part) are furnished after that manner, and they resemble others, having little Horses, both swift, obedient, and easily to be ruled with a rod.

The collars of their Horses are made of wood or hair, whereby the bridles hang. The principal Horses of *Barbary* are not swift, but in respect they live on fodder, they are more handsome and better in flesh, which they use in eminent danger, when it standeth them upon to escape the rage of their enemies. Thus far I have related the words of *Oppianus*, touching the nourishing of Horses, among the *Lybians*, where he sheweth that they are all alike, both in shape and other proportion. Touching the *Nemesian* Horses, they are all one with the *Maurans* and *Marusans*, (as *Strabo* witnesseth) calling them nimble and swift kinds amongst the *Moors*.

The *Sicilians* are swifter then the *Moors*, and the *Moors* are of a more valiant courage then the *Sicilians*, or some such like other thing, who are furnished with yellow colours, and shew to the eye most shining and splendant, and which is more, they only desire the roaring of a Lyon, for which when they come to other wilde Beasts by way of hunting, he commendeth them to be excellent: then he saith that the yellow is the best colour.

Strabo.

Leo African.

Absyrtus.

Ælianus.

In the Countrey of *Mauritania* are great store of Lyons, and of the *Nazacanos* we have spoke of before sufficiently. The *Median* Horses are of exceeding greatness, and the men of that Countrey are so bewitched with the rich attire and shape of their bodies, and also their Horses being so loose with superfluity or rankness, that the Horses take delight in their Masters, both in greatness and in fairness of body, and such costly furniture upon their backs, that they seem to perceive their own stature and comeliness. The *Medes* every year by way of custome pay three thousand Horses. *Herodotus* also calleth the *Nisean* Horses the *Medes*, whereof more shall be spoke afterwards. The *Menapians* amongst our Countrey-men, the only men which I suppose were once call'd *French* of *Cæsar*, and the *Rugians*, (as Warriors) for the most part are in estimation. I also finde that the *Rugians* inhabited that Countrey which is now called *Rugeland*, and that *Paulus Diaconus* remembreth them, lib. 1.

Touching the affairs of *Longobardus*, there are that say they departed into *Meckelburgia*. These are the right offspring of the *Germani* (saith *Alibametus*) they are counted as *Germani*, both in language and virtue. *Gratius* writeth of the *Marcibians*, saying the *Marcibians* scarce yeeld their tough neck to the sword. *Virgill* also declareth *Mycenia* to be a Countrey of most notable Horses: and *Gratius* commendeth a Horse fit for hunting highly in these verses:

*Consule Penei qualis perfunditur amne
Theffalus, aut patria quem conspexere Mycenæ
Glaucum, nempe ingens, nempe ardua fundet in auræ
Crura, quis Eleas potior lustravit arenas?
Ne tamen hoc attingat opus, jactantior illi
Virtus, quam silvas durumque laceßere Martem.*

The *Mysian* Horses were once great in estimation (as *Camerarius* writeth.) Also the *Nasamonians* are people of *Lybia*, living as spoylers of the ships in the *Syrtis*. Of all these Horses before said, the *Nisean* Horse is the goodliest, and fittest to carry the body of a King, they are of a passing good shape, an easie pace, and very submissive to the bridle; having a little head, and a long and thick mane, with yellow or brown hairs hanging down on both sides: *Armenia* is very fit for feeding Horses, wherein is a certain meadow called *Hippoboans*, by which they make their journey which pass from *Persia* and *Babylon* into the *Caspian* Border, in which place they feed five hundred Mares which belong unto their King.

The *Nisean* Horses (written with *Jota* and simple *Sigma*, as *Eustatius* writeth) are the most excellent and best; some say that they have their generation from *Germany*, others out of *Armenia*, but they have a certain kinde of shape like the *Parthians*.

In *India* most of their living creatures are far greater then in other places (except Horses) for the *Nisean* Horses, do exceed the *Indian* Horses, (as *Herodotus* writeth) in his seaventh Book, describing the *Persian* Horse. Behinde the spears (saith he) came ten Horses in most sumptuous furniture, which were *Niseans*, so called, because there is a great field named *Niseus* in the Countrey of *Media*, which yeeldeth Horses of a great stature. After these followed *Jupiters* Chariot drawn with eight Horses, after which *Xerxes* was caryed in a Chariot drawn by *Nisean* Horses, and by how much the greater the *Lybian* Elephant is then the *Nisean* Horse, so much the greater are the *Nisean* Horses then the *Indian* (as the same man saith) in his first Book: but the King was about to offer a white Horse, that is of the *Nisean* Horses, having a better mark as some expounded.

There are that say that *Niseus* is a plain of *Persis*, where the most famous and notable Horses are bred. Some interpret it to the yellow *Nisean* Horse, because all the Horses of *Nisean* are of this colour. Between *Susina* and *Bactria*, there is a place which the *Greeks* call [*Nisos*] in which the most singular fine Horses are bred. There are also that suppose they are had from the red Sea, and all those to be of a yellow colour. *Herodotus* writing of *Niseus*, maketh it a part of *Media*. *Orpheus* also writeth, that there is a place in the red Sea called *Nisa*. *Stephanus* also maketh mention of [*Nisean Pedion*] with the *Medes*, of which people the Horses are so called. *Cælius Rhodiginus* reproveth a certain man which translated the *Islandish* Horses for the *Nisean* Horses. *Plutarch* saith that *Pyrrhus* had an apparition of a *Nisean* Horse armed and furnished with a Rider, that *Alexander* the Great was Captain thereof.

The *Medes* have Colts of a most noble kinde of Horses, which (as antient Writers do teach us, and as we our selves have seen) men when they begin the battel with a fierce encounter are wont to prance valiantly, which are called *Nisean* Horses.

Touching the *Paphlagonians*, about the education of their Horses, see more among the *Venetians*: The *Parthian* Horses are of a large body, couragious, of a gentle kinde, and most sound of their feet. Concerning those Horses which have but one eye, commended among the *Parthians*, and of those which are distinguished by diversity of colours, from those that come forth first, I have spoke already out of *Absyrtus*. The *Armenian* and *Parthian* Horses are of a swifter pace then the *Sicilians*, and the *Iberi* swifter then the *Parthians*, whereof *Gratius* writeth to this effect:

*Scilicet & Parthis inter sua molliatura
Mansit honor: veniat Caudini saxa Taburni,
Garganumque truce, aut Ligurinas desuper Alpes,
Ante opus excussis cadet unguibus; & tamen illi*

Est animus

*Est animus fingetque meas se nifus in artes;
Sed juxta vitium posuit Deus.*

That is to say, among the *Parthians* there hath remained honour for their soft Countries; but let him come to the Rocks of *Caudmus*, *Tabernus*, and too rough *Gargarus*, or upon the *Ligurian Alpes*, then he will quickly shake off his hoofs, and make a shew of great valiantness. The Horses of the *Celtiberians* are somewhat white; and if they may be brought into *Spain* they change their colour. But the *Parthians* are alike, for they excel all others in nimbleness and dexterity of running: How the *Parthians* do make their pace easie in the trotters and hard footing Horses, after the manner of Geldings, shall be declared afterwards, for *Persia* preferreth these Horses above the censure of their patrimonies as well to carry, (having an easie pace) and being of most excellent dignity: As for their pace it is thick and short, and he doth delight and lift up the Rider, being not instructed by art, but effecteth it by nature.

Amongst these ambling Nags, (called of the *Latines* among the common sort of *Totunarii*) their pace is indifferent, and whereas they are not alike, they are supposed to have something common from both; as it hath been proved: whereof *Vegetius* writeth in this manner.

In a short journey they have the more comeliness and grace in going, but when they travel far, they are impatient, stubborn, and unless they be tamed, will be stubborn against the Rider; and that which is a more greater marvel, when they are chafed, they are of a delightful comeliness, their neck turneth in manner of a Bow, that it seemeth to ly on their breast. The *Pharsalian* Mares evermore bring Foals very like their Syre, and therefore very well so named, *Equæ probæ*. We read of the *Phasian* Horses which receive their name (from the mark or brand of a bird so named) or else because of their excellent beauty and comeliness.

The *Rosæan* Horses, *Varro* so nameth of *Rosæa*, which *Volaterranus* writeth to be most fit for War; and this *Rosæa*, otherwise *Rosæa*, *Festus* saith, that it is a Countrey in the coasts of the *Reatians*, so called, because the fields are said to be moist with that dew. The Horses of *Sacæ*, if they happen to throw down their Rider, they forthwith stand still, that they may get up again. *Vegetius* having commended the *Persian* Horses saith, that the *Armenians* and *Sapharens* do follow next. This *Saphirine* verily is an Island in the *Arabian* coast, and the people of *Saphiria* lye beside *Pontus*. The Horses of *Epirota*, *Salmarica*, and *Dalmatia*, although they will not abide to be bridled, yet they shew that they are warlike by their legs.

Cælius.

Ælianus.

Vegetius.

The *Sardinian* Horses are nimble and fair, but lesser then others. The *Sarmatican* kind of Horses is feat and well fashioned in this kind, very fit for running, unmixed, having a well set body, a strong head, and a comely neck. Some Horses they call *Aetogenes*, from a certain mark which they have in their shoulders and colour, which the *Sarmatians* do take unto themselves as very good, with which they do contend about their cruelty, wherefore they imploy them in warlike out-rides, but those that bear the Eagles mark in their buttocks and tail, they are disallowed of them; and they report that they mark them so, because they will not use them, by reason lest they should quickly be destroyed or run into some trouble.

Pliny.

The *Sarmatians* when they entend any long journeys, the day before they keep them fasting, giving them a little drink, and so they will ride them a hundred and fifty miles continually going. These Horses are very fit for War, and many of them are sound gelded in their tender age, and they say they never lose their teeth. It is a custome of *Scythia* and *Sarmatia* to geld their Horses to make them more gentle: they are swift, little, and fierce, but very stubborn and untamed; neither doth *Circo*, (situate near *Sicilia*) breed Horses inferiour to the *Spanish*, as *Vegetius* writeth. The *Epirotan* and *Sicilian* Horses are not to be despised, if they were well bred and educated, they want not comeliness and good qualities.

The *Sicilian* Horses are most swift. *Lilybeum* is a promontory of *Sicilia* lying towards *Lybia*, which a certain verse maketh more plain: but as I understand it is the Three-clift-topt-mountain *Ætna*, which casteth forth fire, and covereth the carkcase of *Enceladus* the Giant, lying there under (whereof *Oppianus* writeth) and some others also. But (saith he) the *Armenians* and *Parthians*, have swifter coursers by far, then the *Sicilians*. Now, let us hear *Gratius* himself, discoursing of the *Sicilian* Horses, as well as of the *Lybian*.

*Sic & Strymonio facilis tutela Bisalta,
Possent Ætneas utinam se ferre per artes.
Qui ludus Siculis: quid tum si turpia colla,
Aut tenuis dorso curvatur spina? per illos
Cantalus Graiis Agragas, victæque fragosum
Ne broden liquere fere. O quantus in armis
Ille meis, cujus dociles pecuaria fatus
Sufficiens, queis Chaonias contendere contra
Ausit, vix merita quæ signat Achaia palmæ.*

But as for *Gratius*, I suspect the place to be unperfect; for *Agragas* is a Mountain of *Sicilia*, having a Town situate in the top of it, bearing the same name, where their Ancestors were wont to nourish and bring up the best Horses. There is also in *Sicilia* a Mountain called *Nebrodes*, which some think to be so called by reason of the plenty of Dear, but they have no Author for it, and

Nebrodon.

as for the printed Book of *Gratius*, I finde it expresseth it not so well as *Virgill* setteth it down, saying, that *Agragas* was a breeder of most couragious and notable Horses: but yet *Servius* saith, (according to *indarus*) that the *Agrigentines* in times past sent their Horses to the justing or combates of *Gracia*, returning with victory from thence, and we have also read, that in *Cappadocia* whole troops of Horses have been destroyed. The men of *Delphos* by the answer of *Apollo* got herds and great store of Horses from *Agrigentine*, and those were excellent. *Aristophanes* calleth those great *Aetnean* Horses (*Canthari*) either of the greatness of the Mountain, or else great *Canthars* are bred in it, or of the Horses of *Aetna*, being notable for swiftness and running. The Horses that are bred in *Crete* and *Cappadocia* are also most excellent.

Strabo.

In *Greece* there are most notable Horses of *Thessaly*, which *Abysrus* saith be the best in all *Greece*. The words of *Gratius* the Poet speaking of the *Thessalian* Horses are before recited. The Mares of *Aemetus* were the most excellent, but as *Homer* reporteth the *Thessalian* were before them. The Solitude or Wilderness of *Arcanatus* is as commodious to feed Horses, as *Thessalia*. It is certain that *Thessalia* excels with Horses, from whence *Xerxes* is said to have made a combate; that he might try his Horses there where he understood the best breed of *Greekish* Horses to be, and from whence this proverb arose, *Dicervatur equa Thessalia* (*viz.*) let the *Thessalian* Mare be tryed by battail, a proverb of excellent worth, because in old time the chiefeft praise was of the *Thessalian* Mares: which is very apparent by the Oracle that was delivered to the *Aeginensians*. *Suidas* relateth (but I know not out of what Author) that *Thessalia* hath excellent Horsmen; *Thracia* expert shooters; and *India* light armour: so hath likewise *Crete* and *Caria*.

Erasmus writeth, that *Thessalia* is most fit to feed Horses, who do far excel the *Arcadians* and *Epidauras*, as *Strabo* witnesseth, lib. 8. *Cesar* was said (when he was Dictator) to have made the first shew among the *Romans* of the Horses, fighting against Bulls, and killing them, whereof *Lucanus* writeth thus:

Thessalius sonipes bellis feralibus omen.

Textor.

That is to say; the *Thessalian* Horse is profitable for fence and deadly conflicts. There is also in *Thessalia* a City (named *Pella*) from whence I deem the *Pelleian* Horses are so called of *Gratius*, yet there be other places called *Pella* (as *Macedonia* and *Achaia*) whereof *Gratius* writeth thus:

Spadices vis Pellae valuerunt Cerauni,

Et tibi devota magnum pecunia Cyrrhae

Phaebæ decus nostras agere in sacraia tonsas.

Which (*Cerauni*) are Mounts of *Epirus*, and *Cyrrha* is a Town of *Phocia*, situate at the foot of the hill *Parnassus*, where *Apollo* *Cyrrhaeus* was worshipped. The *Tyrrheans* being excellent warriors, are commended of *Oppianus*. Out of the Islands of the *Tyrrhenian* Sea (especially *Corfica* and *Sardinia*) there be very short Horses, but they are of good courage, and gentle withall.

Volatteran.

The *Thracian* Horses are foul and ill shapen, being rough all over their bodies, and having very great shoulders, which in the *Greek* is named (*Calomysten*) such a one as will cast down the rider on the ground from off his back, they are crook-backed, or bunched out; or else of divers kinds; and therefore they have an unsure and reeling pace, and their course is very unconstant. *Abysrus* saith, the *Thracian* Horses are the best. The *Thuringian* Horses are neighbours to *Hessians*, which *Pliny* and *Volatteranus* supposed, are called (*Mediterranean Cimbri*.)

There be some that suppose the *Venetians* to descend from a people of *Paphlagonia* (called *Venetans*) which after the destruction of *Troy* came to these places, and by these they make an argument, conjecturing it to be good, in regard they are wholly employed about breeding Horses, which at this time faileth altogether, but in former days they were very careful to follow their business about the training up of young Mules, whereof *Homer* writeth. And *Dionysius* the Tyrant of *Sicilia* ordained, that the breed of Horses should be fetcht from hence, to make warlike combates with them, that among the *Gracians* the excellency of the *Venetian* breed should remain, and that a great while after that breed of Horses got the praise. *Vuallachus* this day is called of the *Saxons* a gelded Horse, and brought out of that Countrey, which sometimes was called *Dacia*. The *Lycospades* and *Lycophotians* shall be spoken of hereafter.

Of the choice of good Horses.

The members
of an eligible
Horse.

Palladius adviseth to observe four things in choice of a Stallion Horse, the form or outward proportion, the colour, the merit, and the beauty, all which are necessary to be observed in the choice of Colts or elder Horses, that they may be of a generous race, having soft legs, lofty paces, gently treading, such as will lead the way, and be not afraid of any water, bridge, or sudden noises; having a gentle neck, a sharp head, a short belly, a fat back, a dapple colour, nimble ears, thick mane lying on the right side, a double bone descending by his loins, a sounding hoof, and legs that cannot stand still, which *Virgil* expresseth in these words:

Nec

*Nec non & pecori est idem delectus equino.
 Tu modo, quos in spem statuis summittere gentis;
 Præcipuum jam inde à teneris impende laborem.
 Continuo pecoris generosi pullus in arvis
 Altius ingreditur, & mollia crura reponit.
 Primus & ire viam, & fluvios tentare minaces
 Audet, & ignoto sese committere ponti:
 Nec vanos horret crepittus, illa ardua cervix,
 Argutumque caput, brevis alvus, obesaque terga:
 Luxuriatque toris animosum pectus, honesti
 Spadices glaucique: color deterrimus albis
 Et gilvo: tum, si qua sonum procul arma dedere,
 Stare loco nescit, micat auribus & tremitt artus:
 Collectumque premens voluit sub naribus ignem.
 Densa juba, & dextro jacta recumbit in arma.
 At duplex agitur per lumbos spina, cavatque
 Tellurem, & solido graviter sonat ungula cornu.*

Varro sheweth that at the first foaling of a Colt, a man may observe by certain signes how he will prove when he is in perfection: for if he be chearful, bold, and not terrified at any strange sight, if he run before the company, be wanton, and contend with his equals in course, and over-run them: if he leap over a ditch, go over a bridge, or through water, and being provoked appeareth meek; these are the most true signes of an eligible Colt.

Also it is to be considered, whether they rise quickly, being stirred from their rest, and run away speedily, if their bodies be great, long, full of muscles, and itarp, having a little head, black eyes, open and wide nostrils, sharp pricked ears, a soft and broad neck, not long, a thick mane curled, and falling on the right side, a broad and full breast, large shoulders, and shoulder-bones, round ribs, a little belly, a double back-bone, or at the least not thin, buncy, and extended; his loins pressed downwards, broad, and well set, little and small stones, a long tail, with curled hair, high, itraight and equal legs, round knees, not great, nor bending inward; round buttocks, brawny and fleshy thighs, high, hard, hollow, and round hoofs, well set to the crown of their pastern, having veins conspicuous and apparent over all his body. That Colt which at the time of his foaling hath the most highest legs, is likeliest by common reason to prove most able and noble in his age, for of all the joynts in the body the knees and legs grow least, and they which have flexible joynts in their infancy, will be more nimble and flexible in their age. And thus much for the parts of a Colt. Now, in the next place we must likewise take consideration of a Horse untamed, and ready for the saddle. For the outward parts of his body, saith *Xenophon*, yeeld evident signification of his minde, before he be backed.

Plato willetth that the state of his body be straight, and articulate, his head bony, his cheeks little, his eyes standing out, and not sunk into his head, flaming like bloud, looking cruelly if the body be black; but black eyes if the body be white, do argue a gentler and better disposition; short and little ear, the crown of his head greater than the residue, broad nostrils, whereby he not only looketh more terribly, but breatheth more easily; for when one Horse is angry with another, in their rage they are wont to stretch out their nostrils vehemently.

The beak or snowt of a Horse, ought not to stand out like a Swines, but to bend down a little crooked, the head to be so joynted to the neck, as it may bend more commodiously, that is, if the neck be small next to the head, so will the neck stand before the rider, and his eyes appear before his feet: and although he be full of stomach, yet will he never be violent or stiffe necked. It ought also to be considered, whether his cheek bones be sharp, tender, or unequal, standing one above another, for their imparity maketh the Horses neck to be hard and stubborn.

The back-bone above his shoulders higher, commodious to set the saddle upon, and his whole body the better compacted, if the back-bone be double, and smooth; for then shall the Rider sit more easily, and the form of the Horse appear more delectable. A large breast sheweth his comeliness and strength, making him fit to take longer reaches without doubling of his legs, because in a broad breast the legs stand further asunder: large side or ribs swelling out above the belly, for they shew the ability of the Horse both to his food and work, a round even belly, and his loins being broad and short, causeth the fore-legs to be lifted up more easily, and the hinder-legs to follow; for the small loins do not only deform, but enfeeble and oppress the Horse, therefore the loins ought to be double, the ribs broad and fleshy, agreeable to the breast and sides, buttocks solid and broad, with a long tail reaching down to the heels of his hinder-legs. Thighs full of sinews, the bones of his legs thick like posts of the whole body, but that thickness ought neither to be of veins nor flesh, for then they are quickly inflamed and wounded, when they travel in rough and sharp ways: for if the flesh be cut a little, the commissures part asunder, and causeth the Horse to halt, and above all other things have a regard to his feet, and therein especially to his hoof, for being thick, it is better then being thin, likewise if they be hard, causeth the pastern to stand higher from the ground, for so in their pace the soft and hard parts of the foot do equally

Signs to chuse
a good Colt.

Columella.

Varro.

Albertus.

Of the choise
of a Horse un-
backed or ne-
ver ridden.

sustain one another, and the hard hoof yeeldeth a sound like a Cymbal, for the goodnes of a Horse appeareth by the sound of his feet.

Now on the contrary side it is good also to set down the faults and signes of reprobation in Horses, and first of all therefore, a great and fleshy head, great ears, narrow nostrils, hollow eyes, a long neck, a mane not hairy, a narrow breast, hollow shoulders, narrow sides, and little fleshy sharp loins, bare ribs, hard and heavy legs, knees not apt to bend, weak thighs, not strong, crooked legs, thin, full fleshy, plain and low hoofs; all these things are to be avoided in the choise of your Horse.

Of the choise of Stallions and breeding Mares.

Now in the next place, let us consider the choise of Horses and Mares appointed for breed and procreation, and we have shewed already, that in a Stallion, we are principally to consider the colour, form, merit, and beauty. This Stallion is called in Italy, *Rozzone*; in France, *Egalon*; in Germany, *Ein Springhengst*; and in Latine, *Admissarius, quia ad generandam sobolem admittitur*, because he is sent to beget and engender. The *Gracians*, *Anabates*, or *Ocheutes*. First of all therefore, to begin with the colour: that Horse is best which is of one continued colour, although oftentimes (as *Rufus* saith) Horses of a despicable colour prove as noble as any other.

Of the colour.

The chief colours are these; bay, white, carnation, golden, russet, mouse-colour, flea-bitten, spotted, pale and black: of all these the black or bay is to be preferred. *Oppianus* maketh distinction of Horses by their colour in this manner, the gray or blewish spotted is fittest for the hunting of the Hart, the bright bay for the Bear and Leopards, the black with flaming eyes against the Lyons. The natural colour of the wilde Horses are an ash colour, with a black strake from the head along the back to the tail; but among tame Horses there are many good ones of black white, brown, red, and flea-bitten colour. But yet it is to be remembred, that seldom or never Colts be foaled white, but rather of other colour, degenerating afterward by the increase of their age, for such Horses are more lively, durable, and healthy, then other of their kinde, and therefore *Plutarch* commendeth a white Horse of *Sylla* for his swiftness of foot and stomach: among all colours, first the black, then the bay, next the white, and last the gray are most commended.

Varrinus.

Camerarius commendeth a certain colour called in Latine, *Varius*, and may be englished dapple gray, because of the divers in-textures of colours, which although many Nations do disallow, yet undoubtedly that colour (saith he) is a signe and argument of a good nature, constituted and builded upon a temperate commixture of humors. Where black, white, and yellow hairs appear, so that the sight of one of these is nothing inferiour to the equestrial party coloured caparisons: Among Horses which are divers coloured, they which have stars in their fore-head, and one white foot, were most commended; such were the *Thracian* Horses not admitted in copulation, of which *Virgil* speaketh in this manner;

— *Thracius albis*
Portat equus bicolor maculis vestigia primi
Alba pedis, frontemque ostentans arduus albam.

Black Horses also which have one russet or swart spot in their faces, or else a black tongue are highly commended for generation, but the pale coloured Horses are no wayes to be admitted to cover Mares, because their colour is of no account: and likewise it is seldom seen that the Foal proveth better then the Sire. The bay colour hath been received without exception for the best travellers, for it is supposed, that *Baudius* (amongst the Latines) is derived of *Vadium*, quia inter cetera animalia fortius vadat: because among other creatures he goeth most surely.

Artificial means to make Mares conceive the best coloured Colts.

It is also behoveful that in a Stallion Horse, the mane be of the same colour with the body. Horse-keepers have devised to make their Mares conceive strange colours, for when the Mares would go to the Horse, they paint a Stallion with divers colours, and so bring him into the sight and presence of the Mare; where they suffer him to stand a good while, untill she perfectly conceive in her imagination the true *Idea* and full impression of those pictures, and then they suffer him to cover her; which being performed, she conceiveth a Foal of those colours: In like manner, Pigeons conceive young ones of divers colours.

The Germans to mingle the colour of Horses hairs (especially to bring black among white) take the roots of Fearn, and of Sage, and seethe them together in lee, and then wash their Horses all over therewith. For the making of their Horses white, they take that fat which ariseth from the decoction of a moul in an earthen pot, and therewithall anoint the places they would have white, Also they shave off the hairs, and put upon the bald place crude Hony, and Badgers grease, which maketh the hairs to arise white: and many other means are used by Horse-leaches, as afterward shall be shewed. In the old age of a Horse his hair doth naturally change white, above all other beasts that we know, and the reason is, because the brain-pan, is a more thin and slender bone, then the greatness of his body would require, which appeareth by this, that receiving a blow in that place, his life is more endangered then by hurting any other member, according to the observation of *Homer*:

*Et qua setæ hærent capiti, lethæque vulnus
Præcipue sit equis.*——

And thus much shall suffice for the colour of a Stallion : now followeth the form or outward proportion of the body, which ought to be great and solid, his stature answerable to his strength, his sides large, his buttocks round, his breast broad, his whole body full and rough, with knots of muscles, his foot dry and solid, having a high hoof at the heel. The parts of his beauty are these, a little and dry head, the skin almost cleaving to the bones, short and pricked ears, great eyes, broad nostrils, a long and large mane and tail, with a solid and fixed rotundity of his hoofs, and such an one, as thrusteth his head deep into the water when he drinketh; his ribs and loins like an Oxes, a smooth and straight back, his hanches or hips long, broad, and fleshy, his legs large, fleshy and dry, the sinews and joynctures thereof great, and not fleshy near the hoofs: that the hinder part of his body be higher then his forepart, like as in a Hart, and this beauty better appeareth in a lean body then in a fat, for fatness covereth many faults; the former parts are thus expressed by Horace :

*Regibus hic mos est ubi equos mercantur, opertos
Inspiciunt, ne si facies ut sæpe decora
Molli sulta pede est, emptorem inducat hiantem,
Quod pulebri clunes, breve quod caput, ardua cervix.*

If you will make trial of your Stallion, whether he be fit for procreation, Hipparchus teacheth you this experiment: press the genital member with your two fingers, and with locks of Wooll draw out his seed, which being so drawn out, if it cleave and hang together, so as it will not be cut nor easily parted, it is a demonstration of a good Stallion; but if it hang not together like birdlime, but easily go asunder like Milk or Whay, such a Horse is not to be admitted to cover your Mares. When Horses be old among other faults, they engender Foals lame in their feet, and therefore they are to be kept, and not to be admitted to copulation nor War; for his rage is like a weak fire among wet stubble, according to these verses :

*Morbo gravis aut seignor annis
Deficit, abde domo, nec turpi ignosce senectæ.
Frigidus in venerem senior, frustra que laborem
Ingratum trahit: & si quando ad prælia ventum est,
Ut quondam in stipulis magnus sine viribus ignis,
In cassum furit.*——

Therefore it behoveth that a Stallion Horse be not under three years old when he covereth a Mare, and it is best for him to begin at five, for so he will endure in generation, not only till he be twenty year old, but also to thirty or forty years, as in some Countreys hath been often proved. They are not to be admitted to cover above fifteen in one year at the most, and a young Horse not above ten or twelve in one year; the residue may be suffered with observation of their strength and nature.

The King of Babylon beside his Horses for war had eight hundred Stallions, which were admitted to cover six thousand Mares, so that every one had twenty a peece; there is also a place in Syria near *Apamia*, where in one plot of ground were nourished thirty thousand Mares, and three thousand Stallions (as *Cælius* saith) so that every Stallion had an hundred Mares to cover (in that place) which number exceedeth the proportion of nature. It is also to be remembred, that Stallions are to be separated from Mares all the year long, except at the time of procreation, and then also he must be largely fed according to these verses :

*His animadversis, instant sub tempus, & omnes
Impendunt curas denso distendere pingui,
Quem legere ducem, & pecori duxere maritum:
Florentesque secant herbas, fluviosque ministrant,
Farraque: ne blando nequeant superesse labori:
Invalidique patrum referant jejunia nati:*

*Ipsa autem macie teneant armenta volentes.
Atque ubi concubius primos jam nota voluptas
Sollicitat, frondesque negant, & fontibus arcent.
Sæpe etiam cursu quatunt, & Sole fatigant:
Cum graviter tussis gemit area frugibus: & cum
Surgentem ad Zephyrum palea jactantur inanes.
Hoc faciunt, nimio ne luxu obusior usus
Sit genitali arvo, & sulcos obliet inertes,
Sed rapiat sitiens Venerem, interiusque recondat*

Abstrus.

It is also to be observed, that the males which are designed for procreation be not over much labor-ed, for then he will be the more weak for generation, nor yet suffered to be too idle, for then a cer-tain fleamy humor is increased in them, which likewise disableth them in copulation; and thus much for the males.

The choise of
Mares.

Almost all the same things which have been said of the male, belong to the female, except the belly of the female ought to be greater; but if there be any white speckles or spots in the eyes of the fe-male, such as are not contracted by accident, but breed in them by nature, such a one is refused for breed; for an Horse born of such a Mare, when he cometh to be old, will likewise be affected with the same blindness; but if it be a female, by reason of her yearly purgation, she may peradventure avoid that mischief.

It behooveth therefore that the Mares appointed for race, be well compacted, of a decent qua-lity, being fair and beautiful to look upon, the belly and loins being great, in age not under three nor above ten years old.

The copulati-
on of Horses
and Mares.

Concerning their admission to generation, it is to be remembred, that the *Latins* have a proper term to signifie the appetite of the female to the male, which they call, *Equire*, that is, Horsing, and they continue in that lust sixty dayes together; the signes whereof are these, They forsake their company, running not toward the East and West, but the contrary, to the North and South: nei-ther permit they any body to come near them, untill they either be wearied or meet with the male, and if they meet with a female like themselves, they joyn neer to her, and seem to rejoyce at her society, lifting up the tail, changing of the voice, and sending forth of her secrets, a certain thin hu-mour, somewhat like the seed of a Horse, which is called *Hippomanes*.

Aristotle.
Albertus.

They also make water more often then at other times, so that among all the females in the world, there is none, beside a Woman, that is more greedy of procreation then a Mare, because they want a menstruous purgation, and yet eat abundance of meat, which *Virgil* expresth, setting down their unlimitable rage, which carryeth them over Mountains and Rivers, in the time of this fury.

*Scilicet ante omnes furor est insignis equarum,
Et mentem Venus ipsa dedit, quo tempore Glauci
Potniades malis membra absumpsere quadrigæ.
Illas ducit amor trans Gargara, transque sonantem
Ascanium, superant montes & flumina tranant.*

Also at that time, their genital hangeth forth more then at other times, but if their manes be shorn off, their lust is extinguished. It is reported also by *Columella* that in *Spain*, in the Mountain *Tegro* which reacheth into *Portugal* upon the Ocean, there be Mares which rage so far in lust, that by their ardent desire of copulation they conceive by the Southwest winde, without the company of a Horse, (even as Hens do lay egges being not trod by a Cock) which are called *Hypenemia*, but those Foales live not till they be above three year old. And it is the property of these Mares (saith *Avicen*) by kicking against the winde with their hinder legs, to open their own womb, and to receive in that delectable air, wherewithal they are satisfied.

Also he saith, that he heard of an old man, which was born in the Isle of *Pealtupha*, that the Mares thereof never cease running, from the one end of the Island to the other, when the rage of their lust is upon them; which thing is elegantly described by a Poet, how they turn themselves to the West, standing upon the rocks, and there draw in the cold aire, which oftentimes maketh them conceive, wondering that they conceive not rather by the East sunrising or South, then by the Westerly winde bordering upon the North; the Poets words are these:

*Continuoque avidis ubi subdita flamma medullis,
Vere magis (quia vere calor redit ossibus) illa
Ore omnes versa in Zephyrum, stant rupibus altis
Exceptantque leves auras: & sepe sine ullis
Conjugiis vento grvida (mirabile dictu)
Saxa per, & scopulos, & depressas convalles
Diffugiunt, non Eure tuos neque Solis ad ortus:
In Boream Caurumq; aut unde nigerrimus auster
Nascitur, & pluvio contristat frigore cælum.*

Sometimes Horses and Mares admit copulation at two year old, but those Foales never prove excel-lent, but at three year old or thirty moneths, they suffer conjunction safely and with profit, because they cease to lose their teeth. They continue in their generation, bearing every second year, the male untill he be thirty year old, and the female as long as she liveth; but the male engendereth yearly: And it is reported of a Horse in *Opus*, that covered a Mare after he was forty year old, being only help up and down from the Mare.

Pliny.

A history of a
stallion to his
own dam,

Pliny, *Oppianus*, *Ælianus*, and *Aristotle* do confidently affirm, that when the King of *Scythia* had all his generous breed of Horses destroyed by a pestilence (except one of his best Mares and a Stallion which was a Foale of that Mares) being desirous to continue the breed, caused his Horse-keeper to put the Son and the Mother together, but the Horse refused copulation with his own

own Parent. Afterward the Horse-keeper covered the Mare with artificial skins, and likewise dressed the Horse in such manner, as one could not know the other, whereupon being brought together the second time, the Stallion covered his own Mother: Afterward the Horse-keeper discovered them, the one to the other, whereby they knew the fraud, and grew guilty in themselves of incestuous commixtion: Whereupon they took no other revenge upon themselves, but ran to the top of an high rock, and there successively threw down themselves, one after another, so ending their miserable days, and preventing their Masters hopes; to teach all mankind that they ought not to seek to thrive by sins against nature: the like is before rehearsed of a male Camel.

The very like story is reported of a Horse in the coasts of *Rea*, yet this is not held to be general: for beasts (as *Aristotle* saith) do promiscuously cover one another; the Father the Daughter, the Son the Mother, the Brother the Sister, and this maketh them to be perfect beasts; and the stories before recited may be true, yet are they extraordinary: otherwise the common rule of *Ovid* remaineth true, That it is not a filthy thing for beasts to observe no degrees of nature.

Coeunt animalia nullo
Cetera delectu, nec habetur turpe iuvenae
Ferre patrem tergo, fit equo sua filia conjux.

The best time of the year for the joyning of Horses and Mares for copulation, is from the vernal æquinoctial to the Summer solstice, because then the Colts which are foaled in due time, have the green herbs and all the warm weather for the succour of their infancy: and if the Mare (after she have been once covered) refuse the male, let her rest ten days, and then bring her to the male again; if she refuse the second time, you may take it for granted, that she is filled already. Wherefore seeing it is known certainly that a Mare goeth twelve moneths with young, it is an easie matter so to order the time of her copulation, that her foale may alwayes be delivered in a warm and seasonable time of the year; for which cause there is an invention for stirring up of the lust both in the male and female: the *Hymenæan* shepherds, by the sweetness of songs upon their pipes, stirred up their Horses and Mares to copulation, but the more assured way is, to follow the direction of *Colamella* and *Abysrtus*, to provoke them by natural means, like as Bulls and Kine.

And first of all for the male, give him the tail of a Hart burned, mingled with wine, and anoint therewithal his stones and genital member, and so shall the dull Stallion be more prone to venery; also there is a kind of *Satyrion*, which they give to them in drink, or the powder of a Horses stones: likewise if the female refuse, take shrimps beaten soft with water (as thick as hony) therewithal touch the nature of the Mare in her purgation, and afterwards hold it to her nose; or else take Hens dung mixed with Rozen and Turpentine, and anoint the secrets of the Mare, which shall so far increase her lust, as it cureth the loathsomeness better then the shrimps, and increaseth lust. But you must regard, that no lean and ill favoured Mare be anointed, because the Horse is quickly wearyed from his lust, and so delighteth only to be tickled therewith without doing any thing.

Other again do first of all bring some vulgar Horse to the Mare, who provoketh and stirreth her to lust, and when he is neer the very fact of filling her, they lead her away to a more generous Stallion, to be covered by him: And so if none of these means do prevail with her, they do rub her secrets with a Nettle, and that causeth her to suffer the Horse to enter.

Democritus also saith that it is in our power to cause our Horses to bring forth males or females; for if we suffer them to couple when the North winde bloweth, or the third day before the full Moon, or bind his left stone, he shall get a male; but if when the South winde bloweth, or three days after the full Moon, or bind the right stone of the Horse, it will prove a female.

Also if at the time of copulation, the Horse leap off from the Mare on the right side, it is a token it will be a male, but if on the left side, it will be a female. Carnal copulation is most acceptable to Horses, and lesse grievous unto them then to Neat, for there is no kind (man only excepted) that is so venereous and nimble in generation as is a Horse or Mare.

The males know their females with whom they live, although they have been but a few days together; and if strange females fall into their company, they expell them away by biting, feeding single and alone with their female by themselves; but if any male or other stone Horse come within their walke, then presently they make force at him; if their female stir from them, they restrain her by biting: and in this time of their rage, they neither regard the rider, nor their adversary, nor the bridle, nor cruell stripes, nor steep hills, nor rocks, nor caves of the earth, if they winde the amorous savour of their fellowes; according to the saying of *Virgil* in these Verses;

Nonne vides, ut tota tremor pertinet equorum
Corpora, si tantum notas odor attulit auras?
Ac neque eas jam frena virum, nec verbera seva,
Non scopuli, rupeſq; caveæ, atque objecta retardant
Flumina, correptos unda torquentia montes.

The means to procure Horses to copulation.

To ingender a male or female.

It hath been also received, that a barren Mare shall conceive if you take a bunch of leeks bruised small and put into a cup of Wine and twelve French flies called *Cantharides* in water, put them two dayes together into the genital of a Mare, like a Glyster, and afterwards put her to a Horse anointing her secrets with the said ointment two several times, when the Horse leaps down from her; or else they take Niter, Sparrows dung, Rozen, and Turpentine, thrusting the same into the Mares genital, whereby it hath been proved, that fecundity oftentimes followed.

Also some use Siler of the Mountains to procure conception in Mares and Cowes, and the true sign of conception is, when their nature (that is) the fluent humour out of their secrets ceaseth for a moneth, or two, or three: and *Pliny* saith, that when a Mare is filled, she changeth her colour, and looketh more red, which is to be understood not of her hair, but of her skin, lips and eyes, her hair standing more full then before. Then let them be separated from the males, exempting them from moist places, cold and labour, for all these are enemies to her foaling, and cause abortment.

Likewise they must not have too much meat nor too little, but only a temperate diet, and soft lodging, their better ordering is elegantly described in *Virgil*, by these Verses.

*Non illas gravibus quisquam iuga ducere plaustris,
Non saltu superare viam sit passus, & acri
Carpere prata fuga: fluviosque innare rapaces.
Saltibus in vacuis pascant: & plena secundum
Flumina, muscus ubi & viridissima gramine ripa,
Spelunceque tegant: & saxea procubet umbra.*

This is most certain, that if a Woman in her flowers, touch a Mare with foal (or sometime do but see her) it causeth to cast her foal, if that purgation be the first after her Virginity: In like manner if they smell of the snuffe of a Candle, or eat Buck-mast or *Genian*. The *Egyptians* when they will describe a Woman suffering abortment, they picture a Mare treading upon a Wolf, for if a Mare kick at a Wolf, or tread where a Wolf hath trod, she casteth her foale: If an Ass cover a Mare which a Horse hath formerly filled, there followeth abortment; but if a Horse cover a Mare which an Ass hath formerly filled, there followeth no abortment, because the Horses seed is hotter then the Asses. If a Mare be sick of abortment or foaling, *Polypody* mingled with warm water given her in a horn, is a present remedy.

The *Scythians* when they perceive their Mares to be quick with foale, they ride upon them, holding opinion that thereby they cast forth their foales with lesse pain and difficulty. They carry their young one in their wombs, as hath been already said, twelve moneths, but sometimes they come at eleven moneths and ten dayes, and those are commonly males, for the males are sooner perfected in the womb then the females, and commonly the females are foaled at twelve moneths and ten days, and those which tarry longer are unprofitable and not worth education. A Mare is most easily delivered of her young among other beasts, and beareth most commonly but one at a time, yet it hath been seen that twins hath proceeded from her. At the time of her delivery, she hath lesse purgation of blood, then so great a molde of body can afford, and when she hath foaled, she devoureth her seconds, and also a thing that cleaveth to her foales forehead, being a piece of black flesh called *Hippomanes*, neither doth she suffer her young one to suck until she have eaten that, for by smelling thereunto, the young and old Horses, or other of that kind would fall mad: and this thing have the imposters of the world, used for a *Philtre* or amorous cup, to draw women to love them, *Virgil* speaketh thus of it;

*Queritur & nascentis Equi de fronte revulsus
Et matris præreptus amor*

And again;

*Hinc demum Hippomanes vero quod nomine dicunt
Pastores, lentum distillat ab inguine virus
Hippomanes, quod sepe mala legere naverca,
Miscueruntque herbas & non innoxia verba.*

This poison made into a Candle (*Anaxilaus* saith) in the burning thereof, there shall be a presentation of many monstrous Horses-heads. There is very great poison contained in this *Hippomanes*, for the *Arcadian Phormis* made a Horse of brasse at *Olympia*, & put *Hippomanes* into the same, and if the Horses at any time seen this Brazen Horse, they were so far enraged with lust, that no halters or bands could hold them, but breaking all, run and leaped upon the said Brazen horse, and although it wanted a tail, yet would they forsake any beautiful Mare, and run to cover it; neither when they came unto it, and found it by their heels to be sounding and hard brasse, would not they despair of copulation, but more and more, with noise of mouth, rage, and endeavor of body, labour to leap upon the same, although the slippery brasse gave them no admission or stay of abode upon the back of that substance, neither could they be drawn from the said Brazen Image, untill by the great strength and cruell stripes of the riders they were forcibly driven away.

The ordering
of a Mare with
foal.

Varro.

Palladius.

Orus.

Aristotle.

The time of
their going
with young.

Aristotle.

Some think this little piece of flesh to cleave to the forehead, others to the loins, and many to the genitals: but howsoever it is an unspeakable part of Gods providence, to make the Mares belly a sepulchre for that poison; for if it should remain in the males as in the females, the whole race of Horses would utterly perish and be destroyed through rage of lust, for which cause the keepers and breeders of Horses do diligently observe the time of their Mares foaling, and instantly cut off the same from the Colt, reserving it in the hoof of a Mare to procure the Stallions to carnal copulation, and the Colt from which they cut this piece of flesh, they sacrificed it, for it is manifest saith *Ælian*, that the Mare will never love that foal, from whence she hath not eaten and consumed this piece of flesh.

And this poison is not only powerful in brute beasts, but also in reasonable men, for if at any time by chance or ignorantly they tast hereof, they likewise fall to be so mad and precipitate in lust, raging both with gestures and voice, that they cast their lustful eyes upon every kind of Women, attempting wheresoever they meet them to ravish or ingender with him: and besides because of this oppression of their minde, their body consumeth and fadeth away: for three dayes after the Colt is foaled he can hardly touch the ground with his head. It is not good to touch them, for they are harmed by often handling, only it is profitable, that it be suffered with the dam in some warm and large stable, so as neither it be vexed with cold, nor in danger to be oppressed by the Mare through want of room. Also their hoofs must be looked unto, lest their dung sticking unto them burn them, afterward when it waxeth stronger, turn him out into the field with his dam, lest the Mare over-mourn her self for want of her foal, for such beasts love their young ones exceedingly.

After three dayes let the Mare be exercised and rid up and down, but with such a pace as the foal may follow her, for that shall amend and encrease her milk. If the Colt have soft hoofs, it will make him run more speedily upon the hard ground, or else lay little stones under their feet, for by such means their hoofs are hardened, and if that prevail not, take Swines grease, and Brimstone never burned, and the stalks of Garlick bruised and mingled all together, and therewithal anoint the hoofs.

The Mountains also are good for the breeding of Colts, for two causes, first for that in those places their hoofs are hardened; and secondly by their continual ascending and descending, their bodies are better prepared for induring of labour. And thus much may suffice for the educating and nursing of foals.

For their weaning observe this rule, first separate them from their dams twenty four hours together, in the next morning let them be admitted to suck their belly full, and then removed to be never more suckled: at five moneths old begin to teach them to eat bread or hay, and at a year old give them Barly and Bran, and at two years old, wean them utterly.

Of handling, taming, or breaking of Horses.

They which are appointed to break Horses are called by the *Grecians*, *Eporidica*, *Hippodami*, and *Hippocomi*; the *Latins*, *Equiones*, *Arulatores*, and *Cotiones*; in *Italian*, *lo Rozone*. *Absyrus* is of opinion that foals are to be used to hand, and to be begun to be tamed at 18 moneths old, not to be backed but only tyed by the head in a halter to a rack or manger, so that it may not be terrified for any extraordinary noise, for which cause they use them to brakes, but the best time is at three years old, as *Crescetiensis* teacheth in many Chapters, wherefore when they begin to be handled, let him touch the rough parts of his body, as the mane and other places, wherein the Horse taketh delight to be handled: neither let him be over severe and Tyrannous, and seek to overcome the beast by stripes, but as *Cicero* saith, by fair means, or by hunger and famine.

Some have used to handle them sucking, and to hang up in their presence bits and bridles, that so by the sight and hearing the gingling thereof in their ears, they might grow more familiar. And when they came to hand to lay upon their backs a little boy flat on his belly; and afterward to make him sit upon him formally, holding him by the head, and this they do at three year old, but commit him to no labour untill he be four year old, yet domestical and small Horses for ordinary use are tamed at two year old, and the best time for the effecting hereof, is in the moneth of *March*.

It is also good in riding of a young Horse to light often, and to get up again, then let him bring him home and use him to the stable, the bottom whereof, is good to be paved with round stones, or else planks of Oak, strewing litter upon it when he lyeth down, that so he may lie soft and stand hard. It is also good to be regarded, that the plankes be so laid, as the Urine may continually run off from them, having a little close ditch to receive it, that so the Horses feet may not be hurt thereby, and a good Master of Horses must oftentimes go into his stable, that so he may observe the usage of this beast. The manger also ought to be kept continually clean for the receiving of his provender, that so no filth or noisome thing be mingled therewith: there ought also to be partitions in it, that so every beast may eat his own allowance, for greedy Horses do not only speedily raven up their own meat, but also rob their fellows. Others again have such weak stomachs that they are offended with the breath of their fellows, and will not eat except they eat alone.

The rack also is to be placed according to their stature, that so their throat may not be too much extended, by reaching high, nor their eyes or head troubled, because it is placed too low. There ought also to be much light in the stable, lest the beast accustomed to darkness, be offended at the Sun light, and wink over much, being not able to indure the beams when he is led abroad; but yet the stable must be warm and not hot; for although heat do preserve fatness, yet it bringeth indigestion and hurteth a Horse's nature, therefore in the Winter time the stable must be so ordered, as the beast may not be offended or fall into diseases by overmuch heat or suddain cold. In the Summer time let them lodge both night and day in the open air.

Vegetius.

This also in stabling of your Horses must be avoided, namely, the sties of Swine; for the stink, the breath, the grunting of Hogs, is abominable for Horses, and nature hath framed no sympathy or concord betwixt the noble and courageous spirit of a Horse, and the beastly sluggish condition of a Swine. Remove also far away from your Horses stables all kinde of fowl, which were wont to haunt those places to gather up the remnant grains of their provender, leaving behind them their little feathers, which if the Horse lick up in his meat, stick in his throat, or else their excrements which procureth the looseness of his belly.

Camerarius.

It must also be regarded, that the stable must be kept neat, sweet, and clean, so as in absence of the Horse, it may not lie like a place for Swine. The instruments also, and implements thereof, such as are the Horse cloathes, the Curry-combs, the Mane-combs, Saddles and Bridles, be disposed and hung up in order behind the Horse, so as it may neither trouble him eating or lying, nor yet give him occasion to gnaw, eat, and devour them to their own damage or hurt, for such is the nature of some wanton Horses, to pull asunder and destroy whatsoever they can reach.

They are therefore oftentimes to be exercised and backed, and principally to be kept in a good diet, for want of food dejecteth the spirit of the noblest Horse, and also maketh the mean Horse to be of no use; but on the contrary a good diet doth not only make a mean Horse to be serviceable, but also continue the worth and value of the beast: which thing Poets considered, when they fained that *Arion* the Horse of *Neptune* and some others were made by *Ceres* the Goddess of Corn, which any mean witted man may interpret to signifie, that by abundance of provender the nature of Horses was so far advanced above ordinary, that like the Sons of the Gods they perform incredible things: whether therefore they eat chaffe, or hay, or grasse, or grain, according to the diversities of Countries, let it be wholesome, clean, fresh, and sweet, without dust, gravel, mustiness, or evill smell.

In the morning give them Barly or provender, a little at a time in distinct or several portions, twice or thrice one after another, so as he may chew and eke digest it thoroughly, otherwise if he raven it in, as he will do having much at a time, he rendreth it in his dung whole and not digested. About three hours after, he hath eaten his provender, give him a little of hay, and three hours after that, his dinners allowance of grain, as in the morning, and afterwards about two or three a clock hay again, and then some drink; last of all give him his allowance of provender for supper, with a bottle or two of hay, which ought to be more plentiful then the former servings: and yet these rules are not to be understood as though they might not be altered, for the times prefixed may be prevented if occasion require. Their best provender is Oats and Barley, yet Barly ingendreth the thinner and better blood, and therefore it is to be preferred, only the measure of the provender is left to the discretion of the Horse-keeper, and there is no meat more wholesome for a Horse, then Barly and Chaffe, because it will make him full of life, and also able to indure labour, yet not over fat.

In *England* in many places they give their Horses bread made of Fitches, Beans, and Pease. When one is to make a journey on horse-back, let him not give his Horse too much provender the noon before, but so much the more hay, and bread steeped in wine, and also let him serve him sooner at night then ordinary, that so the beast may take the more rest. There be which refuse to give Horses wet provender or steeped bread, because they conceive that it will breed in them loathsomeness of meat; but the truth is, a reasonable Horse-keeper preventeth that mischief; and besides, the meat of a Horse is altogether so dry, that the beast himself is indangered to be sick of that disease; and therefore it is as safe to give him moistened food sometimes, as well as to give him bread mingled with salt.

Camerarius.

When a Horse is weary or sweateth, let him not drink nor eat provender, but after he is walked a little while, give him hay, first of all covering him with a large cloth, and remember, that hay is not to be cast before a Horse, as it is out of the reek, but first of all it must be pulled, and shaken betwixt the hands, for the avoiding of dust and other filth. Restrain the Horse as much as you may from eating the litter under his feet, for even the best meat so defiled is unwholesome. It is also good sometimes to suffer him to pick up his meat on the ground betwixt his forelegs, that will make his neck to grow thinner, leaner and more comely. Let his neck be fast bound in the stable with a Leathern collar, and binde with a manicle his fore-leg to the hinder-leg on the contrary side, and so shall his be preserved in more health, because they cannot move out of their place but with difficulty.

Ruffius.

Concerning the drink of Horses, something more is to be added in this place, and namely brackish and troubled water, such as runneth softly, as in great ponds, is fittest for Horses, because that water, being hot and thick nourisheth better, but the swift Water is colder, and therefore more unwholesome, but in hot times (as in Summer) the sweet and clearer water is more convenient

nient if custome be not against it. And because a Horse (except he drink freely) can never be fat, let his mouth oftentimes be washed within with Salt and Wine, and that will make him eat and drink more liberally: and yet the running water is more wholesome for Horses, because whatsoever is moveably fluent, is lesse subject to poison then that which standeth still; but if a Horse sweat or be weary, it is not safe to let him drink any thing, except he first stale, for in such cases followeth distention. And it is better to turn or lead forth your Horse to water, then to bring it unto them. And if at any time necessity cause this to be done, then let the Water be very clear and fresh.

His stable or lodging ought to be ordered, as neither it offend him by cold in Winter, nor yet through heat in Summer, for both these extremities are pernicious: and therefore when the weather is extreame cold, then must the Horses back and belly be covered with a cloth; and when on the contrary it exceedeth in heat, then must his litter be taken away. Also in heat he must be covered with linnen to avoid flies, and in cold with woollen to help nature: likewise it is good toward night to pick, cleanse, and open his hoofs, with some artificial instrument, and to thrust into the hollow Cow-dung, or in defect thereof Horse-dung with a little straw, that so he may not shake it out again: but this is not good to be done every day, but rather every second day, and it is good to mingle therewith sewer or grease, or else a new laid Egge with warm ashes. In ancient time they used not to shooe their Horses with iron, untill the dayes of *Catullus*, who remembreth this custome, saying,

Perream ut soleam tenaci in voragine mula:

So that it seemeth that this devise was first of all invented for Mules. The Horse-shoes ought to be round like his feet, and not hevie, lest the Horses nimbleness be thereby hindered; and great care must be had in nailing or setting them on, lest the tender and fleshie part of the foot be thereby pierced.

Another charge of a Horse-keeper is to keep his Horses lips soft, tender, and gentle, so as he may more sensibly feel his bit: and for this cause let him often rub them with his hands and warm water, and if need require with oil also: and in handling of a Horse this must be observed for a general rule, That neither he come to the Horse right before his face, nor behind his tail, because both these are dangerous to the rider; lest by his heels or mouth he harme him; but on his side he may safely set upon him or handle his Horse, and when he leadeth him, he must likewise go on his side.

Likewise good and painful dressing of Horses is no small means to retain him in sound and perfect health; and therefore he must often be touched with the Curry-comb, and afterward with a handful of straw, so as the hand may follow the stroke to lay the hair smooth: and their fashion was in old time to brush over their Horses with a little linnen instrument made like a sword, whereby they excusse all dust from the beast: and herein it is wisdom to begin at the head and mane, and so to descend to other parts, and to touch the Horses back gently: he may wash the head and mane because it being so bony, it is dangerous lest the comb offend and grieve the beast, except it be layed on very tenderly, but it is not good to wash the legs, because dayly washing loseth the hoof by sliding down of the water, and therefore it is sufficient only to stroke them down with his hands.

The neather part also of the belly is not to be kept over clean, for the more it is cleansed with water, the more is the Horse pained therein: when a Horse is dressed, it is good to bring him out of the stable, that so in the open air he may be tyed in a longer halter, and seem to be at liberty, whereby he shall be brought to more cleanness and tractable gentleness, standing upon some smooth stones, till all the dust and loose hairs both by the Comb and Brush be driven away, and in the mean time the stable be emptied, and this is to be performed before the Horses watering. You must also regard the skin wherein the Horses yard runneth be kept clean, for if it be stopped it hindereth urine, and maketh the Horse sick, and when your Horse is in dressing, let him have before him no manner of meat either of hay or provender.

Let them be led to the Water twice a day, and wash therein both legs and belly, except in the Winter time, wherein it is not safe to wet the Beast so often: and if there be in them any appearance of sickness and infirmity, or if you have any purpose to give unto them any kind of medicine, then must you altogether forbear to water them. Some use to wash their Horses legs with warm wine-lees to refresh their joints and sinews after hard journies, which custome seemeth very allowable: other use in stead thereof warme dish-water out of the kitchen, and the backes they wash with cold water and salt.

Underneath their tails, and near their yards, you shall find them in the Summer time to be much annoyed with flies, and therefore it is a needful part of the Horse-keepers watchfulness to look in those places and drive them away, for so his charge will take the better rest.

And evermore there must be nourished a mutual benevolence betwixt the Horse and Horse-keeper, so as the Beast may delight in the presence and person of his attendant; and for this cause he may be kept from hunger, wet litter, cold in the Winter, and flies in the Summer: and furthermore a diligent caution must be had, that the Beast be not provoked through overmuch severity, for if the Horse by his keepers violence be often driven to his rack and manger to avoid

Pollux.

Camerarius.

Vegetius.

Atipes.

stripes, either he hurteth his shoulders or legs by his own weight or force, or else groweth into a trembling at the presence of a man, and so never yeeldeth any loving obedience; or else falleth into some furious and unreclaimable evill qualities. The Master therefore ought often to enter into his stable, and take a view of his Horses usage, whereby the Beast will quickly take notice of him, especially if he have but one, for it is a great folly and piece of ill husbandry to trust Servants and not to oversee them. *Cato* was wont to say, *Frons occipitis prior*: that is, as the forehead is before the nape of the neck; meaning thereby that nature hath set him highest and formost, which should not hide himself, but take his place upon him and discharge it, for it is not safe or any part of wisdom, to see by another mans eyes, or work altogether by Deputies.

Men must also be afraid of lending their Horses, for the *German*s have a pretty proverb, that they will not trust their wives at great feasts out of their sight, for commonly they learn some evill fashion to their Masters with alteration of strength and quality.

Of adorning and furnishing Horses.

The furniture
of a Horse and
his trimming.

I Cannot approve them that cut off their Horses tail or foretop; one received beginning from an ignorant perswasion of increasing the strength of the Horses back, and the other from an imagined comeliness, by trimming it with ribben or some devised knot, or that it hindred the Horses sight. In the first the Beast is wronged and deprived of his help against the flies, and decency of his hinder parts; and in the second nature accused, for not adorning the Horses forehead with more gaudy and variable coloured hairs, and providing a bunch of hair to weaken his eyes; but neither of these are tolerable, for a wise man once to imagine, and therefore I will not spend any more time to confute this vain adorning of Horses.

Let the horse-keeper take heed that he harm not the Beast when he putteth on his Bridle, for a little negligence quickly bringeth a great offence, by touching, wringing, and oppressing any tender part in the Horses head or mouth. He must alway put on his Bridle on the left side, and if the Horse of his own accord do not open his mouth to the bit, then must he gently open his mouth with one finger, and so put it upon him; and if by that means he open not his mouth, then presse or wring his lip upon his great canine tooth, which thing causeth any Horse to open his mouth.

Also it must be regarded that the Horse in leading be not drawn after you, for so will he be made hard headed, unwilling to follow. Again his Cheeks must not be pinched by the Bridle, lest the skin grow senseless; and also it must not hang long or loose in his mouth, for so he will be alway biting his bit, and give lesse obedience to his Rider.

Camerarius writeth that he hath seen some put Salt upon their bits, whereof the Horse licking or tasting, became more willing to take it into his mouth; and for the better performance hereof, it is necessary to observe by often triall, what kind or fashioned bit best beseemeth and fitteth the Horses mouth, and finding it, keep him thereunto continually: and when it is put on, neither wring his Cheeks, or let him rowl it betwixt his teeth.

The Saddle also must be so fastened to his back, as that it may not turn or rowl upon the same; wherefore he which layeth it thereupon, must come on the left side, and gently without violence or noise, set it upon the Beast; so that neither girths, peytrill, stirrups, trappings, or crupyard, fall betwixt the Back and Saddle, neither covering therewith the Horses wither, nor yet touching his hips or loins.

First of all let the peytrill on the breast be buckled, then the girths in order neer the forelegs, not upon the belly, for upon the belly they will be sliding off, and that is against the rules of riding; for *Bene equitant qui bene cingunt*; that is to say, they ride well which bind fast: and this ought to be done in an open place, where both the Rider and the Horse may have more liberty: where-withal a generous and great stomached Beast is much delighted: neither must he be tyed or drawn too hard till the Rider be seated. Look also often to the girths, that they wring not the sides, or pull off the skin.

Of Riding and sitting on Horseback.

When you are to get up and mount on Horseback, take hold on the lower part of the Bridle neer the Bit, with the left hand, with such a distance as may both keep him from rising, nor give him offence, if you take advantage to get into the Saddle, and with the right hand take the reins on the top of the shoulders and the mane, and so hold them, as you give no check to the Horses mouth in mounting: there are other rules for this among Riders, wherewithal I will not meddle, only it is good to use your Horse to backing both sadled and bare, as well from the plain ground, as from blocks, and risings invented for the ease of man.

Therefore before you go to Horseback, first stroke your Horse, and make much of him with gentle words, or other convenient sound which the Horse understandeth, and so will he stand more willingly till you be on his back: for this thing there is in *Plutarch* an excellent story of *Alexander* the great, when *Bucephalus* was first of all presented to his Father King *Philip*, by a *Thessalian*, called *Philonix*: For when the King was perswaded to go forth into the field to try the qualities of this Beast,

beast, which was so highly commended for rare parts, and valued at such a price, as none but a King might yeeld for him, then the Horse began to snort, and kick, and to admit no man to come unto him within the length of the rains, but kept aloft like a wilde and untamed Horse; yeelding no obedience to voice or other signes of the Riders: whereat the King fell exceeding angry, and bid them lead away the unruly and untamed Horse: *Alexander* being present, complained of the ignorance and fearfulness of the Riders, and that they were the cause why such a generous and gallant beast was no better manned. At the hearing whereof, King *Philip* smiled, and yet so carryed himself as though he had not heard the words of his Son, untill *Alexander* repeated his saying the second time; whereunto his Father replied, What (sir Boy) will you make your self more skilfull then these old cunning Riders? will you lay on them an imputation of fear and ignorance? Yes, said *Alexander*, I will adventure to handle this Horse better then any other: Yea but (said *Philip*), what punishment then wilt thou undergo if thou fail and perform not what thou hast said? What punishment? (said *Alexander*) why I will give them the price of the Horse: Whereat the King laughed and struck up the wager, and so had *Alexander* the rains of the Horse delivered to him, who presently turned him about against the Sun-rising, that so he might not be terrified with the shadow of the beholders, and so led him up and down softly two or three turns, and at last wane the Horse to hand, which he gently stroked and applauded: and when he had gotten perfect intelligence and understanding of the Horses stomach, he cast off his cloak, and addressed himself to mount on his back, so holding the rains, and bearing his hand and whole body as he did not check or pinch the Horses mouth: so he inclined him first of all to lay away his stirred and angry minde, and afterward paced him to and fro gently, which the Horse endured: At last he put Spurs unto him, and made him run, leap, career, and curvet, to the terrour, at the first, of all the beholders, and afterward to the singular admiration and praise of himself: which caused the company or train to applaude this fact, and forced the old man his Father, to send forth tears for joy; and when *Alexander* descended from his Horse, he could not contain himself, but he must needs go kisse and embrace such a Son, whereby it is manifest, that when a Man is to ride on a generous spirited Horse, he shall bend him to endure the burthen by gentleness and familiarity, so as the Beast may still know and love his Rider.

Likewise when the Master mounteth, it is requisite that the servant be on the other side of the Horse to hold the stirrop, for so shall he get up more surely, and set himself more softly. Some Horses are taught to bend their knees to take up their aged and sick Masters, that so they may be the lesse offended in ascending to their backs, and this custom (saith *Pollux*) did first of all begin among the *Persians*. *Xenophon.*

The ancient *Germans* were so singularly exercised in Horsemanship, that standing upon the ground and holding a Spear or Lance in their hands, they mounted without other stirrop or vantage upon their Horses backs; and not only when they were ordinary attired in common garments, but then also when they were armed, (though *Julius Caesar* take from them all glory of Chivalry) yet now adayes the invention of Saddles with stirrops, is most easie both for Horse and Horsemen, being then better the *Pelethronian* invention time.

When the Rider is in his Saddle, and is well seated, he must not sit as in a Chair or Chariot, benaded together, but rather keep his body upright, only bowing outward his knees, for so shall he be better able to defend himself, or offend his adversary; for he must rather seem to stand then to sit on horseback.

The Rider or Master of Horses must spare his Horse in the heat of Summer, (about Dog-dayes) and in the cold of Winter, and never at any time to Ride past the twilight of the evening. The Horse being empty, is more prone to make water then being full, and therefore must not be hindered in that desire: and alway after his staling, ride him not too fast, untill his nerves which were extended to let forth the Urine be contracted, settled and drawn together again. *Russus.*

If in the Winter time a Horse be to passe over a foord of water (which will ascend up above his belly) let him stale first, lest he fall into the Strangury, and also be a little eased of his load. *Absyrtus.*

There is no beast that rejoyceth more in celerity and swiftnes then a Horse, because so soon as he is turned out of hand, he instantly runneth away speedily, and doth walke softly as at other times: and this is a pleasure to them, except when they are provoked above their desires: and the counsell of *Xenophon* when you are to Ride fast or for a wager, is this, bend the upper part of the body forward, stretch out the hand which carryeth the rains, now drawing it in, and then letting it at length again; and therefore it is good in such cases to use short rains, and if the Horse in his course stretch forth the rains of his own accord, then is it a sign of an unskilful Rider, or of a weak and tireable Horse. Add not Spurs but in great necessity, but guide and provoke him with voice and riding rod, for quick and good metled Horses are by the Spur made fierce; and gentle natured Beasts made sluggards like Asses, which by often beating seem to neglect and despise stripes. *Pollux.*

You must also shorten and lengthen your journies and times of Ridings, so as they may neither be certain to the Beast, nor yet over long; and specially after a long journey, take a shorten if you Ride upon the same Horse.

First of all let him be used to plain and equal wayes, and if he be to leap or go up a hill, it was a precept of the old *Grecians*, that then the Rider must lay the rains in his neck.

If the Horse at any time be either more fierce or sluggish then ordinary, he may be holp by these means. Wildeness and fierceness of Horses, is like to anger and rage in men; and therefore occasions of offence in word and deed must be avoided: therefore as soon as the Rider is upon his back, let him rest a little before he set forward, and then also let the Horse move but his own pace: for as men are offended with suddain violence and imperious gestures, so also are Horses: but if the Horse being stirred to his race, be more forward and hot then ordinary, he must be gently restrained by the bridle; and it is better to qualifie their rage in long and spacious direct journies, then in often windings and turnings.

But if any man be so simple as to think that by length of journey or race, his Horse will be more meek, because he may be tyred, he deceiveth himself; for as rage in man inventeth hurtfull revenge, and turneth into malice by continuance, so also in Horses it procureth a headlong ruine (if it be not prevented) both to Horse and Rider: and therefore if your Horse be of a generous spirit, never provoke him to ferocity, for as they are wilde and fierce, so are they wicked and harmful.

It is also better to use light and gentle bridles then heavy and sharp, except the Rider can by his art so frame the sharp as the gentle bit: and also the Rider must so frame himself in his art of riding, that in the commotion of his Horse, he may not touch any member or part of him, but only his back whereupon he sitteth.

He must also learn his different terms, to incite and stir up his Horse to run forward, which the Grecians call *Clogmos*, or else to restrain him and keep him in, which they call *Poppyismus*, the one closeth the lips, and the other toucheth the palat.

If the Horse be fearful of any thing, you must shew the thing to him plainly, that so by custom he may learn not to be skittish, and let him smell thereunto, till he learn not to be afraid; but if men beat them, they do but fear them more; for while they are so ill handled, they suspect that the things whereof they are afraid are the cause of their stripes. In like sort when they go on the one side, or turn back again, it is good to use the Spurs, because they encrease their terror and perverseness; and therefore as peaceable encouragement and friendly perswasion is the best means to perswade a man in his fear, the like course must be taken with a Horse, that so he may go straight on without doubt or trembling; and learn not to account any thing horrible to his nature.

When a Horse is so tyred and wearied in his journey that a man would judge him unfit for any labour, take off his saddle and burthen, and put him into some stable or green field, where he may tumble and rowle over and over, and he shall easily recover. In ancient time, if Horses were to be travelled through snow, they made them boots of sackcloth to wear in their journey.

Of the disposition of Horses in general.

AMong the flocks or herds of Horses, there is not a Captain or leader going before or governing the residue, as among Oxen, Sheep, and Elephants; because the nature of these is more instable and moveable it being a swift and high spirited Beast, and therefore hath received a body furnished with such members as are apt to be swayed by such spirit: for *Laetantius* truly observeth in them a desire of glory, because after victory, the conquerours exult and rejoyce, but the conquered or overcome, mourn and hang down their heads; which thing *Virgil* expresseth in this Verse;

Insultare solo, & gressus glomerare superbos.

But more plainly *Ovid*, the triumph of the conquering Horse; saying,

*Hic generosus honos & gloria major equorum;
Nam capiunt animis palmam, gaudentque triumpho,
Seu septem spatiis circo meruere coronam.
Nonne vides victor quanto sublimius altum
Attollat caput, & vulgi se venditet aura,
Celsave cum caeso decoratur terga leone,
Quam tamedus, quantoque venit spectabilis actu:
Compescatque solum, generoso concita pulsu,
Ungula sub spoliis graviter redeuntis opimis.*

And *Pliny* affirmeth that when they are joyned together in Chariots, they understand their encouragements of glory and commendation: and therefore there is not any beast of so high a stomach as a Horse.

Of the natural disposition of Horses.

They love wet places and bathes, for which cause they are called *Philolatra*, they also love musick, as hath been already declared, and the whole hoast of Army or the *Sybarites*, taught their Horses to dance at the sound of a Pipe: and *Cælius* writeth hereof in this manner, So great (saith he) was the riot and wantonness of the *Sybarites*, that at their common feasts they brought in Horses to dance before men; which thing being known by the *Crotoniats*, they offered them War, and agreed upon the fight: whereupon in the day of battle, the *Crotoniats* brought with them divers Pipers and Minstrels, who upon a sign given to them, sounded their instruments, whereupon the *Sybaritan* Horses came running and dancing among their adversaries, and so betrayed themselves and their Riders to the enemy.

The like story is reported by *Athenæus*, of the people called *Cardiani*, for they also taught their Horses to dance upon their hinder legs, and to work many strange feats with their fore-feet, at the hearing of certain measures played upon Pipes.

The *Bisaltans* waged War against the *Cardians*, and they had to their Captain a certain man called *Onaris*, who when he was a Boy was sold to *Cardia*, and there he served with a Barber: In the time of his service he oftentimes heard, that the Oracle had foretold, how the *Cardians* should be overcome by the *Bisaltans*, and therefore he to prevent the worst, run away from his Master, and came home safe to *Bisaltia* his own Countrey, and was by his Countrey-men created Captain of all their warlike forces: he understanding what tricks the *Cardians* taught their Horses in dancing, brought out of *Cardia* certain Pipes, and taught divers *Bisaltans* to sound and play the measures upon them, which the *Cardians* taught their Horses: whereupon when as they joyned battle with the *Cardian* Horses (for all the force of the *Cardians* lay in their Horses) he commanded his Piping *Bisaltans* to sound their musick, which the Horses understood, who presently stood up upon their hinder-legs, and would not fight any more, or go any further, so as they were overthrown by their adversaries.

They have also a singular pleasure in publick spectacles, and therefore have been observed to be provoked not only by pipes or such instrumentall musick, but also by Songs or vocall harmony, by variety of colours, and by burning Torches. *Dion* also writeth that he saw a Horse taught to know and to do reverence to a King.

And *Textor* affirmeth that he saw a Horse at *Paris* at the triumphs, Tilt, and Turnaments made for the marriage of *Lewis* the twelfth to *Mary*, a Lady of *Britain*, which being commanded by his Rider to salute the Queen, presently did bend both his knees unto her, and then rose again running away as fast as a bird could flye.

Homer seemeth also to affirm that there are in Horses divine qualities, understanding things to come, for being tyed to their mangers they mourned for the death of *Patroclus*, and also fore shewed *Achilles* what should happen unto him: for which cause *Pliny* saith of them, that they lament their lost Masters with tears, and foreknow battles; *Virgil* writeth thus of the Horse of *Pallas*;

Post bellator equus, postis insignibus, Æthon
It lacrymans, guttisq; humectat grandibus ora.

Accursius affirmeth, that *Cæsar* three dayes before he died, found his ambling Nag weeping in the stable, which was a token of his ensuing death, which thing I should not believe, except *Tranquillus* in the life of *Cæsar*, had related the same thing, and he addeth moreover, that the Horses which were consecrated to *Mars* for passing over *Rubicon*, being let to run wilde abroad without their Masters, because no man might meddle with the Horses of the Gods, were found to weep abundantly, and to abstain from all meat. Whereof there could be no cause given, but the love of their former Masters. It is also reported of *Rodatus*, a Captain to *Charles* the great, who after the death of the Emperour was made a Monk, his Horse would never suffer any to come on his back except his Master, who likewise had abstained from riding many years: But it happened that certain *Pagans* brake in upon the said Monastery, whereupon poor *Rodatus* went unto his Horse, who after many years discontinuance, willingly took up his aged Master upon his back, and so carryed him untill he triumphed over his adversaries; and no marvel, for Dogs and Horses are most loving to men, if they be brought up carefully, and liberally, they recompense the good turns of their benefactors. It is observed in the nature of Horses, that they seldom hurt a man or childe, except in their madness, yet are there malicious Horses as well as men. It is reported by *Pliny* and *Tzetzes*, that when a foal hath lost his dam, the residue of the Mares which give suck, bring it up, and that they are seldom found at variance, except the barren Mares pull away the foals from the natural dams. For there is no creature so loving to their young ones, as are Mares, neither any so desirous of young; for which cause, when they are barren themselves, they labour to steal them away from others.

They which were wont to races, would perform it upon Mares newly delivered of foals they tyed up the foals at home, and led the Mares to the beginning of the race, making the end thereof at the foals stable; and so putting the Beast forward, she runneth homewards more speedily for the remembrance of her foal.

Of the fear of Horses, and their enemies in nature.

Horses are afraid of Elephants in battle, and likewise of a Camel; for which cause when *Cyrus* fought against *Cræsus*, he overthrew his Horse by the sight of Camels, for a Horse cannot abide to look upon a Camel. If a Horse tread in the foot-path of a Wolfe, he presently falleth to be astonished: Likewise if two or more drawing a Chariot, come into the place where a Wolfe hath trod, they stand so still as if the Chariot and they were frozen to the earth, saith *Ælianus* and *Pliny*. *Æsculapius* also affirmeth the same thing of a Horse treading in a Bears footsteps, and assigneth the reason to be in some secret, betwixt the feet of both Beasts.

Orus.

We have shewed already, that if a Mare strike a Wolfe, or tread in the foot-steps thereof, she presently casteth her Foal; and therefore the *Egyptians*, when they signifie a Woman suffering abortment, picture a Mare kicking a Wolfe. The *Dextanian* Horses being not Gelded, dare fight with Lions, but being gelded, like all other Horses, they are so afraid of Lions, that no stripes, or spurs, is able to bring them in their presence, the *Caropian* Horses excepted.

Oppianus.

Cardan.

All kinde of Swine are enemies to Horses; the Estridge also is so feared of a Horse, that the Horse dares not appear in his presence. The like difference also is betwixt a Horse and a Bear. There is a Bird which is called *Anclorus*, which neyeth like a Horse, flying about, the Horse doth many times drive it away, but because it is somewhat blind, and cannot see perfectly, therefore the Horse doth oftentimes catch it, and devour it, hating his own voice in a creature so unlike himself.

Ælianus.

It is reported by *Aristotle*, that the Bustard loveth a Horse exceedingly, for seeing other Beasts feeding in the Pastures, despiseth and abhorreth them, but as soon as ever it seeth a Horse, it flyeth unto him for joy, although the Horse run away from it; and therefore the *Egyptians*, when they see a weak man driving away a stronger, they picture a Bustard flying to a Horse. Horses are also taught to leap, if a Man take him by the reins, and go over the ditch before him, holding him fast, and pulling him to him. But if he be unwilling, then let another come behind him and strike him with a whip, or with a rod, so will he leap over without delay; and thus when you have used him to leap empty, likewise accustom him loaded. First over smaller, and then over greater hedges. But at the beginning let him leap in soft ground, and being well practised in harder; and when he beginneth to leap, let the Rider put spurs unto him, for so will he performe his leap with more safety to himself and the Rider; and by custome he may leap and run as well down the hill as up hill; and therefore the *Persians*, and *Nodrisians* use and accustom their Horses to run both down hill, and up hill.

These Epithets following, do serve and expresse the nature of Horses; full of stomach, generous, magnanimous, strong, ardent, sharp, covetous, fierce, bolde, threatening, terrible, foaming; such were the Horses of *Acarmania*, *Argos*, *Mycena*, *Aria*, *Eliu*, *Epid*, *Spain*, *Thessali*, *Farlatia*, of which Countrey was *Bucephalus*, the Horse of *Alexander*. *Ballasia*, a Province addicted to *Mahomet*, hath many of these excellent, great and swift Horses, whose hoofs are so hard, that they need no iron shooes, although they travel over rocks and mountains.

The *Arabians* also have such Horses, and in the Kingdom of *Senega*, they have no breed of Horses at all, by reason of the heat of their Countrey, which doth not only burn up all pasture, but also cause Horses to fall into the Strangury; for which cause they do buy Horses very dear, using in stead of Hay, the stalkes of Pease dried and cut asunder, and Millet seed in stead of Oats, wherewithal they grow exceeding fat; and the love of that people is so great to Horses, that they give for a Horse furnished nine bond-slaves, or if it please them well, fourteen; but when they have bought their Horses, they send for Witches, and observe therein this ceremony.

They make a burning fire with sticke, putting therein certain fuming herbs, afterwards they take the Horse by the bridle, and set him over the smoaking fire, anointing him with a very thin ointment, muttering secretly certain charmes, and afterwards hanging other charmes about their Neck in a red skin, shut them up close for fifteen dayes together: then did they bring them forth, affirming that by this means they are made more valiant and couragious in war.

The love and knowledge of Horses to men.

And to this discourse of Horses belongeth their nature, either of loving or killing men. Of the nature of *Alexanders* Horse before spoken of, called *Bucephalus*, is sufficiently said, except this may be added, that so long as he was naked and without furniture, he would suffer any man to come on his back; but afterwards being saddled and furnished, he could endure none but *Alexander* his Master: For if any other had offered to come near him, for to ride him, he first of all terrified him with his neighing voice, and afterwards trod him under foot if he ran not away. When *Alexander* was in the *Indian* Wars, and riding upon this Horse in a certain battle, performed many valiant acts, and through his own improvidence, fell into an ambush of his foes, from which he had never been delivered alive, but for the puissancy of his Horse, who seeing his Master beset with so many enemies, received the Darts into his own body, and so with violence pressed through the midst

middest of his enemies, having lost much blood, and received many wounds, ready to die for pain, not once stayed his course till he had brought his Master the King safe out of the battle, and set him on the ground; which being performed, in the same place he gave up the ghost and dyed, (as it were comforting himself with this service) that by his own death he had saved the life of such a King: for which cause, after Alexander had gotten victory, in that very place where his Horse died, he built a City and called it Bucephalon.

Gillius.

It is also reported that when Licinius the Emperour would have had his Horses to tear in pieces his Daughter, because she was a Christian, he himself was by one of them bitten to death. Neocles the Son of Themistocles perished by the biting of a Horse: neither herein only is the nature of Horses terrible, because also they have been taught to tear men in pieces: for it is said that Busiris and Diomedes did feed their Horses with mans flesh, and therefore Hercules took the like revenge of Diomedes, for he gave him to his Horses to be eaten: of Diomedes were these Verses made;

Textor.

*Ut qui terribiles pro gramen habentibus herbis,
Impius humano viscere pavit equos.*

The like also is reported of Glaucus (the Son of Sisyphus) who fed Horses with mans flesh at Ponia a City of Boeotia, and afterward when he could make no more provision for them, they devoured their Master: whereof Virgil writeth thus;

*Et mentem Venus ipsa dedit, quo tempore Glauci
Poniades malis membra absumpsere quadrigæ.*

But this is thought a fiction, to expresse them which by feeding and keeping of Horses, consume their wealth and substance. And thus much for the natural inclination of Horses.

Of several kinds of Horses.

There be several kinds of Horses which require a particular tractate by themselves, and first of all the Martial or great warlike Horse, which for profit the Poet coupleth with Sheep:

Lanifera pecudes & equorum bellica proles.

The parts of this Horse are already described in the Stallion, the residue may be supplied out of Xenophon and Oppianus. He must be of a singular courage and docibility, without maim, fear, or other such infirmity.

He must be able to run up and down the steepest hills, to leap, and bite, and fight in battle, but with the direction of his Rider: for by these is both the strength of his body and minde discovered; and above all, such a one as will never refuse to labour, though the day be spent: wherefore the Rider must first look to the institution and first instruction of his Horse, for knowledge in martial affaires is not natural in Men or Horses, and therefore except information and practice adorne nature, it cannot be, but either by fear or heady stubbornness, they will overthrow themselves and their Riders. First of all they must not be Geldings, because they are fearful, but they must be such as will rejoyce and gather stomach at the voice of musick, or Trumpets, and at the ringing of Armour: they must not be afraid of other Horses, and refuse to combat, but be able to leap high and far, and rush into the battle, fighting (as is said) with heels and mouth.

The principal things which he must learn are these: first to have a lofty and flexible neck, and also to be free, not needing the spur; for if he be sluggish and need often agitation to and fro by the hand of the Rider, or else if he be full of stomach and fullen, so as he will do nothing but by flattery, and fair speeches, he much troubleth the minde of the Rider: but if he run into the battle with the same outward aspect of body, as he doth unto a flock or company of Mares, with loud voice, high neck, willing mind, and great force, so shall he be both terrible to look upon, and valiantly puissant in his combat. Wherefore the Rider must so carry his hand, as the reins may draw in the Horses neck, and not so easily, as in a common travelling Gelding, but rather sharply to his grievance a little, by which he will be taught as it were by signes and tokens to fight, stand still, or run away.

Xenophon.

The manner of his institution may be this; after the dressing and furnishing of your Horse as aforesaid, and likewise the backing, first of all move, stir or walk your Horse gently, untill he be well acquainted with the carriage of your hand and whole body, and afterward accustom him to greater and speedier pace or exercise, use him also to run longer races, and also by drawing in your hand to stay or stop suddenly; for there are Horses so instructed, that they can stay themselves in their speediest course upon an instant, without any circumambulation, shaking off the violence of their course, like an ordinary trotting Nag, by mounting up a little with their forefeet.

The institution of a warlike Horse.

And alway it is to be remembered that after the mounting on horse-back, you must first of all begin on the left hand, bending your hand that way, and also to the right hand when you would have your Horse to turn on that side. And above all other things Horses are delighted with crooked,

Men have perished by rashness in riding.

bending and round-courses, such as are in circles and Rings, and he must be accustomed to run from other Horses leaving them behind him, and likewise turning toward them and making at them with his face to them: but headlong and precipitate courses, such as hunters make without guiding body, hand or Horse, are evermore to be avoided, for many men have perished from their Horses, as the Poets witness of *Nipheus*, *Leucagus*, *Liger*, *Clonius*, *Remulus*, *Amicus*. And also among the Historiographers, *Agenor*, *Fulco* of Jerusalem, *Philip* son of *Ludovicus Grassus* King of France, and *Bela* King of Pannonia.

Of Horse-men, and the orders of Chivalry and Knighthood.

The honour of Horfemanfhip.

Festus.

Suidas.

The Athenian Orders.

Aristophanes.
Caelius.
Suidas.

The principal Horse-men of the world celebrated in stories, for training, ruling, and guiding their Horses according to the art of War, may for the dignity of Knighthood (wherewithal they are honoured) and from whom that Equestrial order is derived, be recited in this place. It is manifest by *Sipontinus*, that the Roman Equestrial order, was in the middle betwixt the Senatours and the common people, for at the first there was no difference betwixt *Equites* and *Judices*, for both of them had for a badge, cognifance, or note of their honour, power to wear a ring of gold, and in the Consulship of *Marcus Cicero* the title was turned to Equestrial, or name of a Knight, or man at Armes, by that means reconciling himself to the Senate, and affirming that he was derived from that order, and from that time came the *Equester ordo*, being, as is said before, the people, and recorded after the people, because of the latter creation thereof: yet had they not their beginning at this time, but only now they first came into the orders of the Common-wealth; for they were called *Celeres* under *Romulus*, of one *Celer* who at the command of *Romulus* flew *Remus*; and he was made the chief Judge of three hundred. They were afterward called *Flexanimes*, either because they swayed the minds of them whom they judged, or else which is more probable, because of martialling and instructing their Horses for war: afterward because they took a great company of horse-men, without all aid of footmen, at the City *Trossulum* in *Thufcia*, they were called *Trossulani*, and *Trossuli*, and yet some ignorant persons honoured with the title of *Trossuli* in remembrance of that victory, were ashamed thereof as unworthy their dignities.

They were forbidden to wear purple like as were the Senatours, and their golden Ring was a badge both of Peace and War. The Master of the Horse among the Romans, called by the Grecians, *Hipparchus*, and by the Latins, *Magister Equitum*, was a degree of honour next to the *Dictator*, and *Marcus* the *Dictator* made the first Master of horse-men, who was called *Spurius*, and set him in place next to himself. These Equestrial men or Knights of State were wont to be publicans at the least, and it was ordained that no man should be called into that order, except both he, his Father, and Grandfather were free men, and were worth in value twenty thousand pound: *Turon* and *Tiberius* made this law, but afterward it grew remisse and not observed; whereby both Bondmen and Scribes were rewarded with this dignity from the Emperour, for Orations and pleasing speeches: yet were the Decurial Judges chosen out of this rank; for indeed by primary institution, they were the flower and seminary of the Roman Gentry. *Pliny* complaineth that this dignity which was wont to be a reward for Military men, who had adventured their lives for the honour of their Countrey, was now bestowed corruptly, and for money upon mean bribing persons. It should seem they had every one a Horse of honour given to him for his note, for if one of them had grown fat and unweeldy, not able to manage and govern this Horse, it was taken from him. And *Cato* took away the Horse from *Scipio Asiaticus*, because he had intercepted money; and from hence came the terms of their allowance, as *Equestre æs*, for that money which was paid for a Horse to one Knight, and *Pararium æs*, for a double fee to an Equestrial man.

Among the Athenians, the highest order was of them which were called *Pentacosmedymni*, which had plowed so much land as had sowed an 100 bushels of Corn; and the next degree were their *Equites*, Knights, or Horse-men, because for the defence of their City, they were able every one to nourish a Horse of war. There were of these in ancient time but 600, and afterward they were increased unto 1200. and the sacrifices which were made for their pomps and triumphs, were called *Hippades*: and they had liberty to nourish their long hair which was forbidden to other men, and their tax to the sacrifice was at the least half a talent, (which is at the least 300 Crowns) and this sacrifice was made for the health of their Horses. There were two Masters created over these, to wage and order war; and ten inferiour Governours or Wardens to look to the provision and nourishing of Horses.

Among the Lacedemonians they had four Governments; the Monarchy for the Kings, the Aristocracy for the Old-men, the Oligarchie for their Ephori or Commissioners, the Democratie for their Young-men, which governed, managed, and instructed Horses. Nestor that ancient Knight was commended for his skill, and had therefore given him the title of *Hippotes*.

Among the Calcedonians there was not a rich man but they took him into this Order, and the Cretians likewise did ever highly account hereof, and made it their highest degree of honour, for even the Romans did sometime govern whole Provinces with no other then these; and Egypt had this in peculiar, that no other Order, no not a Senator might be President or Govern among them. The Achæans had this degree in high estimate, like as the Germans their *Batavi* or States. The Citizens of Capua were and are disguised with a perpetuity of this honour, because in the Latins war, they did not revolt from the Romans; and among all other, the Gaditan were most honoured herewith,

herewith, for at one time and for one battle they created 400. This title hath spread and adorned it self with many more degrees, as that among the *French*, *Caballarii* and *Equites aurati*, and such as are Knights of *Jerusalem* and divers others, some for Religion, and some for feats of Armes: whereas the *Persians* used a certain kind of garment in War, called *Manduas*, from hence cometh the Knights upper garment to be called a mantle, for all the *Persians* were Horsemen. The noblest Horses and such as could run most speedily and swiftly were joyned together in chariots for races, courses, spectacles, games and combates, for great values and prizes.

Nempe volucrum
Sic laudamus equum: facili cui plurima palma
Fervet, & exultat rauco victoria circo.

And again *Ovid* saith;

Non ego nobilium venio spectator equorum.

And *Horace*;

Nec te nobilium fugiat certamen equorum.

There was one *Anniceris* a *Cyrenian* most skilful in this practise, and according to the vain humors of men, was not a little proud hereof, and for his love to *Plato* would needs in the *Academy* shew him and his Scholars his skill, and therefore joyning his Horses and Chariot together, made many courses with such an even and delineate proportion, that his Horses and wheels never wandered a hair breadth from the circle or place limited, but alway kept the same road and footsteps, whereat every one marvelled: but *Plato* reprov'd the double diligence and vain practice of the man, saying to him in this manner, It cannot be, that a man which hath travelled and laboured so much in an art or skill of no worth or use in the Common-wealth, that ever he can addict his mind to grave, serious and profitable business, for while he applyeth all his parts and powers of body and soul to this, he is the lesse able and more unapt to those things which are alone more worthy of admiration.

The ancient custom was, to use other mens Horses in this combate, and therefore in the funeral of *Patroclus*, *Homer* bringeth in *Menelaus*, using the Horse of *Agamemnon*. There were four several places wherein these games of Horses and Chariots were wont to be observed and kept, and they were called after these places, *Olympia*, *Pythia*, *Nemea*, and *Isthmia*, and of all these the *Olympiads* were the chief, whereof all stories are full, for they were celebrated in *Olympus* every fifth year inclusively, that is, after the end of every fourth year.

The writers of Chronicles do agree that the games of *Olympus* were first instituted by *Hercules* in the 2752. year of the world, beginning the world from *Noahs* flood, and they begin to record and number the first *Olympiad* to be about the 3185. year of the world, about seventeen year before the building of *Rome*.

There were of these *Olympiads* 328. and the last of these by computation or account fell about the year of our Lord 534. after the birth of *Jesus Christ* the blessed Saviour of the world.

The perfection of these games began the twenty five *Olympiad*, at what time *Pagondas* the *Theban* was pronounced victor: for then were swift Horses brought into the games, and were called *Teleioi*, that is, perfect in agility and growth; and these are called by *Pindarus*, *Monampyeia*; afterward came in *Synoris* with two Horses, and in succession both Colts, Mares, and Mules: their courses are thus expressed by *Virgil*;

Ergo animos æquumque notabis,
Et quis cuique dolor victo, quæ gloria palma,
Nonne vides? cum præcipiti certamine campum
Corripuere, ruuntque effusi carcere currus,
Cum spes arrepta invenum, exultantiaque haurit
Corda pavor pulsans, illi instant verbera torto,
Et proni dant lora: volat vix fervidus axis.
Jamque humiles, jamque elati sublimè videntur
Aera per vacuum ferri atque assurgere in auras,
Nec mora, nec requies: at fulva nimbus arene
Tollitur: humescunt spumæ, statuque sequentium:
Tantus amor laudum, tanta est victoria curæ.
Sic ad bella magis studium turmasque feroces,
Aut *Alphearotus* prælabi flumina *Pisæ*,
Et *Jovis* in laco currus agitare volantes:
Primus equi labor est, animos atque arma videre
Bellantum, lituosque pati, tractumq; gementem
Ferre rotam, & stabulo frenos audire sonantes.

And

And Horace expresseth it in this manner :

*Sunt quos curriculo pulverem Olympicum
Collegisse juvat, metaque fervidis
Evitata rotis, palmaque nobilis
Terrarum dominos evehit ad deos.*

Women were wont to be excluded from these games, untill *Cynisca* the daughter of *Archidamus* King of the *Spartans*, first of all other women nourished and trained Horses for these currule and Chariot games, and when she brought her Horses to *Olympus*, she obtained the prize; therefore her Horses were consecrated to *Jupiter Olympius*, and their figures remained in Brass in his Temple.

Pliny.

It is also said that *Echarates* a *Thessalian* overcame in the *Olympian* games with a Mare great with foal: And it is also reported that *Miltiades* the son of *Cimon Stesagora* (one of the ten Captains of *Athens*) ran away from *Pisistratus* the Tyrant, and in the time of his absence, he was twice Victor at *Olympus* by four Mares, the first time he bestowed the glory upon his cousin German *Miltiades*, his mothers brothers son, and the second time he took it to himself, for which cause he was slain by the sons of *Pisistratus*; his Mares were also buried over against him, with an inscription, that they had won four games in *Olympus*, so that it appeared, he ran divers times and never missed victory. At *Athens* they observed these courses with Horses in honour of *Theseus*, and called the place of the running, *Hippodromus*.

The *Latines* call it *Stadium*, and *Curriculum*, and it was appointed in some plain valley, according to the proverb, *Equus in planiciem*; in the midst whereof was a building called *Circus*, whereon the beholders stood to look upon the pastime, and there were also places to contain the Horses and Chariots, till they were turned out to run, (called *Carceres*) according to the verses of *Silius*:

*Sic ubi profiluit piceo de carcere præceps
Ante suos it victor Equus.*

And Horace also,

*Ut cum carceribus missos rapit ungula currus,
Instat equis auriga suos vincentibus, illum
Præteritum temens extremos inter euntem.*

And hereof came the proverb (*A carceribus ad calcem*) signifying from beginning of the race to the latter end. *Erichthonius* invented a Chariot called *Harma*, and was the first that ever ran in *Olympus* with four Horses in the same, of whom *Virgill* writeth thus:

*Primus Erichthonius currus & quatuor ausus
Jungere Equos rapidisque insistere victor.*

And from hence came the team *Quadriga*, for a Chariot with four Horses. There was a Chariot in *Athens* drawn by one Horse, and the games thereof were called *Polemysteria*. Likewise at *Rome* in the Consul-feasts celebrated for the honour of *Neptune*, they ran with Horses both joyned and single.

There were likewise games at *Rome*, called *Equitia*, and *Equitia*, celebrated every year, the twelfth of the Calends of *May*, wherein after the Horses they coursed Foxes tyed to pieces of wood set on fire; this is called in *Latine* also *Turnementum*; and in *Italian* by *Scoppa*, *Hagiosfra*; and in *French* *Formierim*: There is also a play with Horses for children call'd *Troia*, first invented by *Ascanius*, when he besieged *Alba*, and by him brought and taught to the *Romans*, of which *Virgill* speaketh, saying;

*Incedunt pueri, pariterque ante ora parentum
Frenatis lucent in equis,
Cornea bina ferunt præfixa hastilia ferro:
Pars leves humero pharetras.
Tres equitum numero turma, ternique vagantur
Ductores: pueri bissesti quemque secuti.
— Signum clamore paratis
Æpytides longe dedit, insenuitque flagello.
Olli discurrere pares, atque agmina terni
Diductis solvere choris, rursusque vocati
Convertere vias, infestaque tela tulere.
Inde alios ineunt cursus, aliosque recursus
Adversis spatiis, alternosq; orbibus orbes
Impediunt, pugneque cient simulacra sub armis.
Et nunc terga fuga nudant, nunc spicula vertunt
Insensi: facta pariter nunc pace feruntur.
Hunc morem cursus, atque hæc certamina primus
Ascanius, longam muris cum cingeret Albam*

Retulit,

Reitulis, & priscos docuit celebrare Latinos.

— Hinc maxima porro

Accepit Roma, & patrium servavit honorem.

Trojaque nunc pueri, Trojanum dicitur agmen.

of the greatest Horse-masters and nourishers of Horses.

It is reported of King Solomon, that he had forty thousand stables of Horses for Chariots, and twelve thousand for war. The *Lybians* when they went to war, did fight out of their Chariots, and therefore they were said to fight upon two Horses. The *Centaures* were the first that ever taught men to fight on Horse-back, and the *Roman Turnia* consisted of two and thirty Horse-men, the Captain whereof was called *Breurius*. The people of *Nomades* called *Surgatii*, brought eight thousand Horse-men at one time into the field, which neither used armour, nor brags, nor iron, except only their daggers, and a rope of leather thongs, wherewithall they entred the battail, and joyning with their enemy, they made certaingins, or loops thereupon, which they cast upon the necks of Horses and men, and so with multitudes drew them unto them, in which draught they strangled them.

The *Indians* use the very self same Armour on Horse-back that they do on foot, but yet they lead empty Horses and Chariots to leap up and down upon, and to refresh their fighting Horses; and the number of their Horse-men were at one time fourscore thousand.

When *Pharnuches* the *Arabian*, was riding on Horse-back, there was a Dog ran betwixt his Horses legs, wherewithall the Horse being amazed, suddenly leaped upright, and cast off his Rider, who being bruised with the fall, fell into a Consumption: whereupon the Servants at the commandment of their Master, brought the said Horse into the place where he cast his Rider, and there cut off his legs about the knees. There was also a fashion for Horses to fight in battails without bridles: For *Fulvius Flaccus*, when the *Romans* overthrew the *Celtiberians* in *Spain*, caused them to pull off their bridles from their Horses, that so they might run with all violence, without restraint of Riders upon their enemies; whereupon followed victory: for many times it falleth out that the Horse hath more courage then his Rider, wherefore a good Horse-man must have skill to annoy his enemy, and defend himself; and likewise, to make his Horse to come off and on without fear or dread, according to necessity.

There is a proverb in *Greek*, (*Choris hippeia*) that is, (*Scorsim equites*) the Horsemen are asunder, whereof *Suidas* giveth this reason: when *Darius* invaded the territory of the *Athenians* ranging and destroying at his pleasure, no man daring to abide his forces, at his departure, the *Ionians* climbed up into trees, and signified unto the *Athenians*, that the Horse-men had broken rank and were asunder. Whereupon *Miltiades* set upon the scatered company, and obtained a noble victory.

of fighting in War upon Horses.

The most cruel and fearful kinde of fight, is the arming of Horses, which were called in antient time *Catafracti*, and *Clibanarii*, and *Acatafracti*, and *Ferentarii*, fighting first of all with spear, and afterwards with sword and shield, casting sometimes also darts at one another, and bearing bows to shoot arrows, their Horses making room for them, which way soever they went: for with sharp pikes and other crooked-keen-cutting-instruments, fastened to their Armour or Chariot-wheels, in the violence of their course, they wounded, killed, over-turned, or cut asunder whatsoever flesh came in their reach.

The ancient Horsemen of the *Romans* had no breast-plates, (as *Polybius* affirmeth) and therefore they were naked in their fore-parts, providing for the danger that was behinde them, and defending their breast, by their own celerity: their shields were made of Oxe skins plighted and pasted together, being a little round in compass like the fashion of a mans belly.

There was also great use of swift Horses in War, for the *Roman* Souldiers carryed with them two Horses a peece, being taught and exercised like *Indians*, when they had need to flie, to leap upon their empty Horse, for their sparing of the other: and they were therefore called *Amphippi*, being apt to carry their Masters out of danger, and from hence (*Ælianus* saith) the *Romans* took the pattern of their *Phalanx*, (called *Antistomus*) with which they used to terrifie the Barbarians, setting their Horses in a double front, so as they appeared headed both wayes: and this was also the custom of all the *Germans*, when the number of their Horse-men was not equall, they mingled the Foot-men, with their Light-horses, who being experienced to run suddenly with the Horse men, leaped into the battail, and surprized the enemies flying away: and the same fashion did the *Spaniards* also use (*Strabo* saith) for the terrifying of their enemies, making the Foot-men to fall into the battell among the Horse-men.

Those which did shoot Darts on Horse-back, were called *Hippotoxotæ*, and therefore *Aristophanes* in his discourse of Birds, calleth Hawks by that name, for the resemblance betwixt them and Horses, bearing these Riders. The Hawks are so called in swiftness of their course; and because the talons of the Hawk are crooked like bows. *Arrianus* writeth that the Horse-men of *Alexander* carryed spears in their hands fourteen cubits long, whereunto I cannot consent; for eight cubits is a common size, as much as any Souldier on Horse back is able to use.

Dion.

Alexander.

In

In battail there are wings of Horfe-men, which are fo called, becaufe like wings they cover and protect the Army. And there were alfo Legionary Horfe-men, becaufe they were joynd to the Legions of Souldiers, and the company of Elephants, Foot-men, and Horfe-men which were wont to go before the King, were called *Agema*. A company of Horfes fet like a Tower in a Quadrangular form in a field, was called *Pergus*. The Armour of Horfes on his front or fore-part, is called *Pro-metopidia*, upon the ears *Parotia*, upon the cheeks *Paria*, upon the breast *Prosternidia*, upon the fides *Parapleuridia*, upon the loins *Parameridia*, upon the legs *Paracnemidia*. And the time of arming a Horfe is known of every Souldier.

Of Riding.

THe *Medes*, *Persians*, and *Armenians*, were the first that invented the art of riding and shooting, (as *Strabo* saith) *Pausanias* cald *Neptune Hippeus* for no other cause, but that it was supposed he was the first invented the art of riding. *Polydorus* ascribeth it to *Bellerophon*. *Lysias* the Orator saith, that the *Amazonian* women were the first of all mortal creatures that first adventured to back Horfes. Others ascribe it to the *Centaures*: But to leave the Invention, and come to the Art. *Damias* in the life of *Apollonius*, setteth down the sum of the Art of riding, which briefly is this; To sit straight upon his Horfe, to rule him valiantly, to turn him with the bridle which way soever he pleaseth, to beat him when he is stubborn, to avoid Ditches, Gulfs, and Whirlpools when he rideth through waters; going up a hill, to lengthen the rains, and to restrain and draw them in going down the hill; now and then to stroke his hair, and not always to use stripes.

Martial hath an excellent Epigram upon one *Priscus* a rash-headed-hunter, who neither feared Hedges, Hills, Dales, Ditches, Rocks, Rivers, nor other perils; using a bridle to his Horfe, but none to his affections; and therefore he telleth him, that he may sooner break a Hunters neck, then take away a Hares life: for there are deceits in the Rocks, Hills, and plain Fields, to shake the Rider from Horfe-back to the earth. Thus followeth the Epigram;

*Parcius utavis moneo rapiente veredo,
Prisce, nec in lepores tam violentus eas.
Sape satis fecit præde venator, & acri
Dedit excussus nec rediturus equo.
Insidias & campus habet: nec fossa, nec agger,
Nec sint saxa licet, fallere plana solent.
Non deerunt qui tanta tibi spectacula præsent:
Invidia fati sed levior cadunt.
Si te delectant animosa pericula, *Thuseis*
(*Tutior est virtus*) insidiemur apris.
Quid te frena juvant temeraria? Sapius illis
Prisce datum est equitem rumpere, quam leporem.*

The best place for riding, is a barren and plain Countrey. It is reported of *Claudius*, that when he had road a great way in the Countrey upon his enemies, and met no body, he returned back again into his own Camp, and blamed the sluggishness of his enemies, becaufe no one of them was seen abroad.

It is reported by *Aristotle*, that the further a man rideth, the more apt he shall be to weep; and the reason is, becaufe of all the motions of the body, riding is the wholesomest, both for the stomach and for the hips; for a man must not sit on Horfe-back, as if he were carryed in a Coach; but rather keep his back-bone upright, not only to be moved by his Horfe that beareth him, but also by himself; and there he must sit close to the Horfes hips, extending his legs to the uttermost, using not only his eyes to look before him, but also lifting up his neck to help his sight: for so the soft pace of the Horfe doth corroborate the spirit above all other exercises; likewise, the body and stomach; also it purgeth the senses, and maketh them sharp: yet sometimes by the violent course of a Horfe, the breast of a Man, or some other part about the reins receive damage, (as some have observed:) yet is it not so much to be ascribed to the motion of riding, as to the uneasie pace, or rather to the uneasie seat of the Rider.

The *Scythians* above all other Nations have the loofest and broadest bodies; and the reason is, becaufe they wrap not their children in swadling cloaths as other people, and likewise becaufe they have no regard unto their sitting upon Horfe-back; and lastly, for their continual sloath and ease: for the men use much to ride in Chariots, and Litters, before they get on Horfe-back; but after they are accustomed thereunto, they ride so much, that their hips and bones fall full of ach, and they are also thereby made unfit for generation, becaufe in a journey of an hundred miles, they never light to ease themselves and their Beasts.

These men hereafter named, were excellent Riders and tamers of Horfes. *Automedon*, servant of *Achilles*; *Idæus*, servant to *Paraimus*; *Metiscus*, servant to *Turnus*; *Myrtilus*, servant to *Oenomaus*; *Ceberes*, servant to *Darius*; *Anniceris*, servant to *Cyreneus*; *Picus* to *Mesepus*; and *Lausus Silius* remembreth *Cyrnus*, *Durius*, *Atlas*, and *Vernus*.

The Instruments of Riding appertaining to a Horse.

A Good Rider must consider the hardness or softness of his Horses mouth, that so he may temper his bit; for a stiffe-necked Horse, is not so much to be guided by rod and Spur, as by bit, and bridle: wherefore it must sometime be hard, and sometimes gentle. The hard bits are called *Lupati*, because they are unequal, and indented to a Wolves teeth, whereunto the Horse being accustomed, groweth more tractable and obedient to a gentle bit. According to the saying of *Ovid*:

*Tempore parat equus lentis animosus habenis,
Et placido duros accipit ore lupos.*

And *Virgill* again speaketh to like effect:

*—prensifque negabunt
Verbera lenta pati, & duris parere lupatis
Asper equus, duris contunditur ora lupatis.*

And *Silius* saith:

Quadrupedem flectit non cedens virga lupatis.

There is also another instrument made of Iron or Wood (called *Pastomis*) and Englished, *Barnacles*; which is to be put upon the Horses nose, to restrain his tenacious fury from biting, and kicking, especially at such time, as he is to be shod or dressed. The *Indians* were wont to use no bridles, like the *Grecians* and *Celts*, but only put upon their Horses mouth a piece of a raw Oxe skin, fastened round about, containing in it certain iron pricks standing to the Horses lips, putting a long round trench through his mouth, to the edge whereof they fasten the reins, wherewithall they guide the beast. The *Turkish* Horses, and *Spanish* Jennets have bits, with open circles in the middle, consisting of Leather, or Iron, to restrain the Horses fury. The reins are called *Habena*, because they make the Horses, *Habiles*, that is, tractable, and rutable, to be turned, restrained, or put forward, at our pleasure, according to the saying of *Silius*:

*Ferrato calce, atque effusa largus habena,
Cunctantem impellebat equum.*

And *Virgill*:

Ipse ter adducta circum caput egit habena.

Neither is there any Horse swift, or slow, noble, or unnoble; that can be guided without these, which must be held continually in the hand of the Rider, they must not be unequal, one longer then another, neither thick, neither weak, nor bristle.

There was a certain golden chain (called *Ampix*) wherewithal the fore-tops of Horses were wont to be bound or tyed up, and thereupon *Homer* calleth the Horse of *Mars*, *Chrysampix*; and from hence that custom of womens frontlets, to be adorned with gold and pretious stones. There are also other ornaments of Horses called trappings; and in *Latine*, *Phalera*, derived from *Phalon* in *Greek*, signifying bright, because they were wont to put a great deal of gold and silver upon them, (as *Livius* saith) which Horses so trapped, were presents for great Princes: And there is a kind of *Achates* stone, wherewithal the *Indians* do adorn their Horse-trappings: and it was apparent in *Homer*s time, that they used little Bells, or sounding pieces of Brasse to be fastened to their Horses bridles and trappings; they hanged likewise Jewels and Pearls to the breast of their Horses, which *Virgill* expresth in this manner:

*Instratos ostro alipedes, pictisque tapetis
Aurea pectoribus, demissa monilia pendunt.
Tibi auro, fulvum mandunt sub dentibus aurum.*

A good Horse-man must also have a paring knife, wherewithal to purge and open his Horses feet: this is called by *Rufinus*, *Rosseta*; and by others *Scalprum*. There is a kinde of Manicle for the patternis of Horses, (called *Numella*.) Moreover a good Rider must provide him stirrops, (called *Subsellares* and *Staphæ*) which although it be but a new devise, yet are they so necessary for every Rider, as without them they cannot long continue. They must not be made too straight for the foot, because that then they do not only hinder motion in that part, and so make it benumbed and cold, but also give occasion of great hurt to the Rider in case the Horse fall, except he can so temper himself to put but a very little part of his foot therein.

There are also Spurs requisite to a Rider (called *Calcaria*) because they are fastened to the heel of a man, wherewithal he pricketh his dull Horse when he would have him hasten the journey, and the *Greeks* derive it from *Muops*, signifying a pricking fly, from imitation of which creature it may seem they took this invention: but this must be remembered, that they are prepared for the dull and sluggish

gish Horse, and not for the free and full of life; for such a Horse being pricked therewith, runneth forth rather with rage and disdain, then for love of the journey, and many times the torment thereof maketh him by kicking out his heels to cast off his Rider.

Lastly, he must have regard to his Saddle, whereon he must sit: for the Barbarians did use to ride upon bare Horses backs; but since that time, the wiser sort of Horse-men have invented a seat for their own security. *Martiall* writeth hereof thus:

*Stragula succincli venator: sume veredi,
Nam solet a nudo surgere fons equo.*

Of Hunting Horses.

Hunting Horses because of their swiftness, were wont to be called *Veredi*; according to the saying: *Sunt & veredi, cursu pernices*: Although they use this kinde also for posts, and performance of speedy journeys. The males are much better then the females, and therefore they seldom use Mares in hunting, because they are not so well able to leap, or endure the Woods, for which cause *Gratius* writeth in this manner of them;

*Restat equos finire notis, quos arma Diane
Admittant: non omne meas genus audet in artes.
Est vitium ex animo: sunt quos imbellia fallant
Corpora: praeveniens quendam est incommoda virtus.*

Oppianus in his discourse of hunting Horses, (as we have said already) adviseth to make choise of them by the colour, unto whom *Gratius* consenteth, saying:

Venanti melius pugnant color, optima nigri.

They that are of blewish colour, having variable spotted legs (he saith) are fittest to hunt Harts: they that are of a bright gray, to hunt Bears, and Leopards; they that are bay, or of a reddish colour, to hunt the Boars: they that are black, having glazen eyes, are good against Lyons: and thus much for the hunting Horses.

Of Coursers, or swift light running Horses.

After the use of Wagons, and Chariots, which men had invented for their ease in travel, and growing to be weary thereof, by reason of many discommodities, they came also to the use of single Horses, which therefore they called Coursers, and now a days a Horse for Saddle, whereupon men perform their journeys; and the Poets say, the inventor hereof was *Bellerophon* the son of *Neptune*, to whom his father gave *Pegasus* the flying Horse; which therefore they describe with wings, and place for a star in Heaven like an Angel, because of his incredible celerity: others attribute it to the invention of *Sesostris*, otherwise called *Sesonctosis*, a King of Egypt; some to *Orus*, when he waged war against his brother *Typhon*; For these Horses, are no less profitable in war, then in peace, although none use them in these days, but common Souldiers; yet in antient time the greatest Nobles rode upon them. The Emperor *Probus* had one of these Horses, which was nothing comely, nor very high, yet would he endure ordinary journeys, to run a hundred mile a day, whereupon his Master was wont to say merrily; that he was better for a flying, then a fighting Souldier. The Horses of Spain are of this kinde, which they call Jennets, of *Genibus* their knees; because when the Rider is on their backs, he must hold his knees close to the Saddle and sides, for his better ease. Like unto these are the *Barbary* Horses, whom they geld, to keep them from the hardness of the Nerves, which happeneth unto them in their heat and travel. There are a kinde of Horses called *Lycospaels*, and the reason of this name is, as some say; because when they were Foals, they escaped the teeth of Wolves, being set on by them: and therefore they run the more speedily to their dying day, for the wounds of Wolves make a Horse light footed; but this is not likely, for fear cannot put that into them which is not bred of nature; even as we say, that *Ulysses* by avoiding *Circes* cup, or *Cyclops*, was therefore made wise; but rather on the contrary; because he was wise, therefore he did avoid *Circes* cup; so likewise we say, that these Horses are not lighter of foot, nor fuller of courage, because they were set upon by Wolves, and delivered by fear; but because nature hath framed them, nimble, valiant, and couragious; therefore they did avoid the Wolf.

Ælianus also saith, that these Horses had a wonderful knowledge, and sagacity, to discern betwixt *Gracians* and other Nations; for when a *Gracian* came unto them, they loved them, stood still, and took meat at their hands; but if a *Barbarian*, or stranger came unto them, they discerned them by their nose, as a Dog doth the foot-steps of a Beast, lifting up their voyce, they ran as fast away from them as they would from any ravening Beast. These loved not only their familiars, but above all other things to be neat, fine, and cleanly in Chariots: For if at any time they came through water, drawing of a Chariot, they took a pride in cleansing themselves from all dirt and filthiness, cleaving to their legs or face. And that which is more strange, they were unwilling in race, to be stayed

stayed or taken out thereof, as appeared by this story, related by *Festus*. There is saith he in *Rome* a great gate called *Ratumena*, which took his name from the death of a young man, an *Hetrurian*, who perished there in a race of Chariots, being Conqueror, because his Horses would not stay untill they came into the Capitol, and saw the framed earthen Chariots, which were placed in the porch of *Jupiters* Temple by the *Romans*, and were appointed to be fashioned in earth by the hand of a cunning Potter, the which being wrought in earth, and put into the furnace, they grew so great that they could not be taken out whole; at the sight of these, the Horses of *Ratumena* stood still, but first of all, their master was slain in the course by falling off.

The Horses of *Tartaria* are so incredibly swift, that they will go twenty *German* miles in one day. There was a race of Horses at *Venice* (called *Lupifera*) which were exceeding swift, and the common fame is, that they came upon this occasion. There was a certain merry fellow, which would become surety for every man, for which he was commonly jested at in the whole City. It fortun'd on a day, as he travelled abroad in the Woods, that he met with certain Hunters that had taken a Wolf, they seeing him, asked him merrily, if he would be surety for the Wolf, and make good all his damages that he had done to their flocks, and foals, who instantly confessed he would undertake for the Wolf, if they would set him at liberty; the Hunters took his word, and gave the Wolf his life, whereupon he departed without thanks to the Hunters.

Afterward in remembrance of this good turn, he brought to the house of his surety a great company of Mares without mark or brand, which he received, and branded them with the Image of a Wolf, and they were therefore called *Lupifera*, from whom descended that gallant race of swift Horses among the *Veneti*: upon these ride the posts, carrying the letters of Kings and Emperors to the appointed places, and these are said to refuse copulation with any other Horses that are not of their own kinde and linage.

The *Persian* Horses are also exceeding swift, which indeed have given name unto all others. The messengers of the great *Cam* King of *Tartaria*, have their posts so appointed at every five and twenty miles end, of these running light Horses, that they ride upon them, two or three hundred miles a day: And the *Pegasarian* coursers of *France*, by the like change of Horses, run from *Lyons* to *Rome* in five or six days.

The Epithets of a swift running courser are these, winged or wing-bearing, Lark-footed, breathing, speedy, light, stirred, covetous of race, flying, sweating, not slow, victorious, rash, violent, and *Pegasian*. *Virgil* also describeth a swift and sluggish Horse most excellently in these verses; sending one of them to the Ring, and victory of running, without respect of Countrey or food, they are to be praised for enriching his master, and the other for his dulness to the mill, the verses are these following.

—Nempe volucrum

Sic laudamus equum, facili cui plurima palma
Fervet, & exultat rauco victoria Circo.
Nobilis hic, quocunque venit de gramine, cujus
Clara fuga ante alios, & primus in aequore pulvis,
Sed venale pecus Corithæ, posteritas &

Hirpini, si rava iugo victoria sedis,
Nil tibi majorum respectus, gratia nulla
Umbrarum, dominos pretiis mutare jubentur
Exiguus, tritoque trahunt Epihedias collo
Segnipedes, dignique molam versare Nepotis.

One of these swift light Horses is not to be admitted to race or course untill he be past three year old, and then may he be safely brought to the ring, and put to the stretching of his legs in a composed or violent pace, as *Virgil* saith:

Carpere mox gyrum incipiat gradibusque sonare
Compositis, sinuetque alterna volumina crurum.

Pliny affirmeth, that if the teeth of Wolves be tyed to these Horses, it will make them never to give over in race, and when the *Sarmatians* were to take long journeys, the day before they gave their Horses very little drink, and no meat at all, and so would they ride them an hundred and fifty miles out right.

The *Arabians* also in many regions use to ride upon Mares, upon whom they perform great journeys, and King *Darius* did also fight his battails upon Mares which had foals; for if at any time their affairs went to rack, and they in danger, the Mares in remembrance of their foals at home would carry them away more speedily then any other Horse: and thus much for the light or swift Horses.

Of the Gelding.

They have used to lib their Horses, and take away their stones, and such an one is called in *Latine*, *Canterius*, or *Cantberius*, which is driv'd of *Cauterium*, because they were seared with hot irons, or else from the stronger boughs or branches of Vines, so called, because they were pruned. In *French*, *Cheval Ogre*, *Cantier*, *Cheuron*, and *Soppa* doth interpret the *Spanish*, *Janetto*, to be a Gelding. It is said of *Cato Censorius*, that he was carryed and rode upon a Gelding; and of these the *Turkish* Horses receive the greatest commendations.

Grapaldus.

Forasmuch as many Horses by their seed and stones are made very fierce, truculent, and unruly, by taking away of them, they are made serviceable and quiet, which before yeelded unto man very little profit: and this invention may seem first of all to be taken from them which fed divers together in one herd, being taught the intolerable rage of their stoned Horses towards their Colleagues and guides; for abating whereof they took from them their male parts.

Camerarius.

Of the manner hereof you may read plentifully in *Rufius*, and he affirmeth that the *Scythians* and *Sarmatians*, who keep all their Horses in herds, were the first devisers thereof: For these people using to rob and forrage, were many times by the neighing of their unruly Horses discovered; for their property is to neigh not only at Mares, but also at every stranger that they see or winde, and for males they were so head-strong, that they would divers times carry away the Rider perforce, and against his will, to his own destruction, in the rage of their natural lust.

Camerarius.

If they be gelded under their dams when they suck, it is reported by some, that from such their teeth never fall away; and beside, in the heat of their course their nerves are not hardened, for which cause they are the best of all to run withall.

Livius.

They use to geld them in *March*, in the beginning of the Spring, afterward being well nourished, they are no less strong, able and couragious then other unlibbed; also there is a pretty proverb, *Cantherius in Fossa*, a Gelding in a Ditch, which is then to be used, when a man undertaketh a business which he is not able to manage; for a Horse can do much in a plain, but nothing at all in a Ditch. It is reported that *Jubellius Tauræa*, and *C. Asellius*, fought a combat on Horse-back near the City *Capua*, and when one had provoked another a good while in the plain fields, *Tauræa* descended into a hollow way, telling his fellow combatant, that except he came down unto him, it would be a fight of Horses, and not of Horse-men; whereunto *Asellius* yeelded, and came down unto the Ditch: at whom his adversary jested, asking him, if he did not know, that a Gelding could do nothing in a ditch, from whence came the common proverb aforesaid.

There is also another proverb (*Cantherius in Porta*) A Gelding in the gate, to signifie a man who after he had undertaken the performance of a great exploit, his heart faileth in the very entrance, for it is reported of one *Sulpicius Galba*, who riding out of the City, his Horse tyred in the gate.

Festus.

There is likewise another adage in *Plautus*, which is this; *Crete hæc mulier Cantherino ritu astans somniat*. That is to say, this Woman sleeps standing like a new dressed Horse, and is applyed against them which in a kinde of foolish jesture shut their eyes when they talk or work: and thus much for the Gelding.

Of Careering Horses for Pomp or Triumph.

THe nature of these Horses is to lift up themselves and rise before, standing upon their hinder legs, which is not possible for any to do without a generous and gallant spirit, and also nimble and strong loins to bear up the hinder legs, for it is not as many suppose, that this power of rising before from the softness of his legs, but rather from his loins and hips betwixt his hinder legs, for when his mouth is a little checked with the bridle he presently bendeth his hinder pasterns and ankles, and so lifteth up his fore-parts, that his belly and yard do appear, and in doing hereof the Rider must not bear his hand hard, but give him the bridle, that so he may do it willingly and with greater grace of the beholders.

Xenophon.

There are some which teach Horses to lift up themselves by knocking their pasterns with a rod, which the Horse understandeth as well as he doth his race, when he is stroked on the back by the Rider. And in teaching of a Horse this feat, it must be observed, that he never have rest untill he have learned it, and that at certain signs and tokens, he be taught of his own accord to perform divers and sundry gestures: but if after long riding and copious labour, he begin to understand his Masters pleasure, and rise twice or thrice together, then you may give him the reins, nothing doubting but that he understandeth and will be obedient to the pleasure of the Rider. And in this kinde he is accounted the best careering Horse, which will rise high and oftneft together; neither is there any quality so commendable in a Horse as this, or that so draweth and (as it were) so imprisoneth the eyes of old and young, and other beholders, for which cause Martial Horses for service of War, are to be instructed herein; and thus much for this Horse.

Of load or Pack-horses.

WHere they keep Horses in herds and flocks, they have some which are not fit for the saddle, nor for the wars, and therefore are to be employed for the carrying of burthens, or to the Cart; although (as *Festus* saith) Mules were first used for carrying and draught; but forasmuch as all Nations have not Mules, they are therefore enforced to use Horses, and for this purpose the Geldings are much better then the stoned Horses; wherefore the Countrey-men of most Nations take Horses, for this purpose, after they be sold, past breeding, or have some other blemish in winde or limb, whereby they are disabled to travel under a man: for so great is the greediness of our age, that Horses are not spared so long as they be able to live; according to the common proverb, (*Asinus, equus, Mulus feræ nullæ*) Horses, Mules, and Asses, keep no Holy-days: where the Law of God concerning the Sabbath is not observed; for the nourishing of Horses doth countervail the charges.

charges. Among these may be remembered those little Nags called *Hinni*, and *Ginni*, spoken of already in the discourse of *Asses*, whereof some are generated betwixt a Horse and an *Ass*, and others fall to be very little, through some sickness which happeneth unto them in their dams belly: these are used with shorn manes according to the saying of *Propertius*: *huc mea detonsis aucta est Cynthia mannis*. They are used for pleasure, to carry the young sons of Noble-men and Gentle-men. There are also Horses called *Equi funales*, because in their triumphs they were led with a halter next after the triumph.

Of Wilde-horses, the Sea-horse, and the Hart-horse, called Hippelaphus.

IN the days of *Gordianus* there were brought to *Rome* forty wilde Horses, and in the map of *Gordianus* Wood, there were pictured three hundred. They are called in *Latine*, *Equiferi*; and in *Greek*, *Hippagroi*, they abound in *Spain*, and in the *Alpes*, and in the Deserts of *Æthiopia* there are many of them, which have two long venomous teeth standing out of their mouth: they differ also in their hoofs from other Horses, for they are cloven-footed like Harts, and they have a long mane growing all along their back to their tail: And if at any time the Inhabitants take them by gins and other flights, they fall so fullen, that they abstain from meat and drink, disdaining to be kept in any servitude or bondage; the Wilde Horses of *India* have but one horn: In the *Alpes* they are of an ash-colour, with a black list down their backs. The wilde Horses of *Scythia*, near the River *Hypanis*, are clean white. The wilde Horses of *Syria* live in flocks and herds together, and in every herd they have one Captain or Master over the residue, and if it fortune that any of the younger Horses leap upon a Mare, this Captain-horse runneth after him, never giving over till he hath bit off his stones.

Oppianus.

Albertus.

Aristotle.

There are wilde Horses in *Brushia* which are like to other Horses in all parts, excepting their backs, which are so soft and weak, that they cannot endure to be sat upon, neither are they easily tamed, and the people of the Countrey eat their flesh: In *Polonia* there is a kinde of wilde Horse which hath horns like a Hart, and therefore I take it to be the same which is called *Hippelaphus*, whose picture is here described as it was taken here in *England*, by that learned Physitian Doctor *Cay*.

The figure of HIPPELAPHUS.



This

THis beast was brought out of *Norway*, having a mixt form, betwixt a Hart and a Horfe, having a well compacted body, a long and lean leg, a cloven hoof, a short tail, and in all parts you would judge him to be a Hart, but in his head and ears you would judge him to be a Mule, and in his horns a Roe, the upper lip hanging over the neather almost as much as an Elks; his mane like a Horfes, but thinner and standing more upright, without other alteration from their shoulders to their tail, they have a like bristling mane growing on the back-bone, as long as their other hair; a bunch under their chaps, and upon that a bunch or shaggy hair, the hair about their shoulders is more longer then ordinary, but their necks so short, that they can neither drink their drink, nor eat their meat upon the ground, except they bend down upon their knees. The males in this kinde do only bear horns, and such as do not grow out of the Crowns of their head, but as it were out of the middle on either side, a little above the eyes, and so bend to the sides: They are sharp, and full of bunches like Harts, no where smooth but in the tops of the speers, and where the veins run to carry nutriment to their whole length, which is covered with a hairy skin: they are not so rough at the beginning, or at the first proffes, specially in the fore-part, as they are in the second, for that only is full of wrinkles: from the bottom to the middle they grow straight, but from thence they are a little recurved; they have only three speers or proffes, the two lower turn away, but the uppermost groweth upright to heaven; yet sometimes it falleth out (as the Keepers of the said Beast affirmed) that either by sickness, or else through want of food, the left horn hath but two branches: In length they are one *Roman* foot and a half, and one finger and a half in breadth, at the root two *Roman* palms. The top of one of the horns is distant from the top of the other three *Roman* feet and three fingers, and the lower speer of one horn is distant from the lower of the other, two *Roman* feet measured from the roots: in substance and colour they are like to Harts horns, they weighed together with the dry broken spongy bone of the fore-head, five pound and a half, and half an ounce, (I mean sixteen ounces to the pound:) they fall off every year in the month of *April*, like to Harts, and they are not hollow. The breadth of their fore-heads betwixt the horns is two *Roman* palms and a half, the top of the crown betwixt the horns is hollow on the hinder part, and in that fiece lyeth the brain which descendeth down to the middle region of the eyes.

Their teeth are like Harts, and inwardly in their cheeks they grow like furrows, bigger then in a Horfe; the tooth rising out sharp above the throat, as it should seem that none of his meat should fall thereinto unbruised. This Beast in young age is of a Mouse or As colour; but in his elder age it is more yellowish, especially in the extreame parts of his body: the hair smooth, but most of all on his legs, but under his belly, in the inner part of his knee, the top of his neck, breast, shoulders, and back-bone, not so smooth: In height it was about twenty two handfuls and three fingers, being much swifter then any Horfe; the female beareth every year, as the Keeper said in *Norway*, two at a time; but in *England* it brought forth but one.

The flesh of it is black, and the fibres broad like an Oxes; but being dressed like Harts flesh and baked in an Oven, it tasted much sweeter. It eateth commonly grasse; but in *England* seldom after the fashion of Horfes, which forbear hay when they may have bread; but leaves, rindes of trees, bread and oats, are most acceptable unto it. It reacheth naturally thirty hand breadths high, but if any thing be higher which it doth affect; it standeth up upon the hinder-legs, and with the fore-legs there imbraceth or leaneth to the tree, and with his mouth biteth off his desire.

It drinketh water, and also *English* Ale in great plenty, yet without drunkenness; and there were that gave it Wine, but if it drink plentifully it became drunk. It is a most pleasant creature being tamed; but being wilde, is very fierce, and an enemy to mankind, persecuting men, not only when he seeth them by the eye, but also by the sagacity of his nose following by foot more certainly then any Horfe, for which cause they which kept them near the high ways, did every year cut off their horns with a saw: It setteth both upon Horfe and Foot-men; trampling and treading them under-foot whom he did over-match, when he smelleth a man before he seeth him, he uttereth a voice like the gruntling of a Swine being without his female: it doth most naturally affect a woman, thrusting out his genital (which is like a Harts) as if it discerned sexes. In *Norway* they call it an *Elk*, or *Elend*, but it is plain they are deceived in so calling it, because it hath not the legs of an *Elk*, which never bend, nor yet the horns, as by conference may appear. Much less can I believe it to be the *Hippardius*, because the female wanteth horns, and the head is like a Mules; but yet it may be that it is a kinde of *Elk*, for the horns are not always alike, or rather the *Elk* is a kinde of Horfe-hart, which *Aristotle* calleth *Arrochusius* of *Arracotos* a region of *Assya*, and herein I leave every man to his judgement; referring the Reader unto the former discourses of an *Elk*, and the *Tragelaphus*.

of the SEA-HORSE.

THe Sea-horfe, called in *Greek*, *Hippotomos*, and in *Latine*, *Equus Fluvialis*; It is a most ugly and filthy Beast, so called because in his voyce, and mane he resembleth a Horfe, but in his head an Oxe or a Calf; in the residue of his body a Swine, for which cause some *Grecians* call him sometimes a Sea-horfe, and sometimes a Sea-oxe, which thing hath moved many learned men in our time to affirm, that a Sea-horfe was never seen; I wereunto I would easily subscribe (saith *Bellonius*) were it not that the antient figures of a sea-horfe, altogether resembled that which is here expressed; and was lately to be seen at *Constantinople*, from whom this picture was taken

taken. It liveth for the most part in *Nilus*; yet is it of a doubtful life, for it brings forth and breedeth on the land, and by the proportion of the legs, it seemeth rather to be made for going, then for swimming: for in the night time it eateth both hay and fruits, foraging into corn fields, and devouring whatsoever cometh in the way; and therefore I thought it fit to be inserted into this story. As for the Sea-calf, which cometh sometimes to land only to take sleep; I did not judge it to belong to this discourse, because it feedeth only in the waters.



This picture was taken out of the *Colossus* in the *Vatican* at *Rome*, representing the *River Nilus*, and eating of a *Crocodile*: and thus I reserve the farther discourse of this beast unto the History of Fishes, adding only thus much, that it ought to be no wonder, to consider such monsters to come out of the Sea, which resemble Horses in their heads, seeing therein are also creatures like unto Grapes and Swords.

The *Orsean Indians* do hunt a Beast with one horn, having the body of a Horse, and the head of a Hart. The *Aethiopians* likewise have a Beast, in the neck like unto a Horse, and the feet and legs like unto an Ox. The *Rhinocephalus* hath a neck like a Horse, and also the other parts of his body, but it is said to breath out air which killeth men. *Pausanias* writeth, that in the Temple of *Gabales*, there is the picture of a Horse, which from his breast backwards is like a Whale. *Lampiscenus* writeth, that in the *Scythian Ocean*, there are Islands wherein the people are called *Hippopodes*, having the bodies of men, but the feet of Horses; and *Lamia* hereafter to be declared, hath the feet of a Horse, but in other things the members of a Goat: and thus much for the several kinds of Horses, both for them that are properly so called, and also for any other, which like bastards retain any resemblance of nature with this Noble and profitable kinde of Beast.

Of the Diet of Horses, and their length of life.

HAVING thus discoursed of the kinds of Horses, and their several accidents, and uses both for War, and Peace, pleasure, and necessity; now likewise it followeth, that we should proceed to their diet, and manner of feeding: wherein we are first of all to consider, that the natural constitution of a Horse is hot and temperate. Hot, because of his Levity, and Velocity, and length of life; temperate, because he is docible, pleasant, and gentle towards his Master and Keeper. He therefore that will keep Horses, must provide for them abundance of meat; for all other Cattel may be pinched without any great danger, only Horses can endure no penury. *Varro* saith, that in feeding of Horses, we must consider three things: First of all, what food the Countrey wherein we live doth yeeld: Secondly, when it must be given: Thirdly, by whom, but specially the place of feeding Horses is to be considered; for although Goats can live in the Mountains, better then in the green fields, yet Horses live better in the green fields, then they can in the Mountains. For which cause when we chuse pasture for Horses, we must see that it be fat, such as groweth in Meddows, that in the Winter time it may be Sunny, and in the Summer it may be open and cold, neither so soft under-foot, but that the Horses hoofs may feel some hardness, for Horses, Mules and Asses, do love well green grass, and fruits, yet principally they grow fat with drinking; when they are in the stables, let them have dry Hay. A Mare when she hath foaled give her Barly, and generally at all times in the Winter season *Bullimung*, or a mixture of all kinds of grain is fit for them in the house, according to these verses of *Nemetian*:

Inde ubi pubentes calamos duravert æstas,
Latenteque urens herbas siccavit omnem
Mensibus humorem, culmi que armarit aristas,
Ordea tum, paleasque leves, præbere memento.
Pulvere quin etiam, puras discernere fruges

Cura sit, atque toros manibus percurrere equorum,
Gaudet ut plausu sonipes letumque relaxet
Corpus, & altiores rapiat per viscera succos,
Id curent famuli, comitumque animosa juvenus.

We have shewed already, that they must have straw, or litter to ly upon, and *Pollux* doth set down the kindes of meats for Horses, as barley, hay, or *French* wheat, rice, and hay; for hard and dry meat is fittest for Horses, because it doth not fill them with winde; but all green meat is the less approved, by reason of inflammation. Three-leaved grafs is also good for Horses, especially if they be young, for chaffe, hay, grafs, and oats, are their natural and pleasing food: and although grafs be moist, yet in the young age of a Horse, he delights in moist meats, for they stretch out his belly, and encrease his growth, but when he is elder, then ought he to be nourished with dryer food; as chaff, Barley, Oats, and such things. For although chaff, by reason of their dryness, make not a Horse fat, yet do they preserve him in perfect strength, for all hard things which are dissolved with difficulty, do retain their force of nutriment longer, but softer meats do not so; therefore the best dyet or habitude for Horses, is, to retain the mean betwixt fatness and leanness. For fatness ministreth many humors to the nourishment of sickness, and leanness diminisheth natural strength, maketh the body deformed. In some Countreys they give their Horses Vine branches in the Autumn, to move their bellies, and increase their strength.

Mathaeolus.
Dioscorides.

The herb *Medica*, which aboundeth in *Media*, is very nourishable to Horses, but the first stalks are refused, saith *Aristotle*, the residue being watered with stinking water, is most commodious. In *Italy* they fat their Horses with *Trifoly*; in *Calabria* with *Sulla*, or *Arthritica*; and the *Thracians*, near the River *Strymon*, with a green Thistle.

In the Spring time give your younger Horses *Bullimung* for many dayes together, for that will not only make them fat, but also purge their bellies: for this purgation is most necessary for Horses, which is called soyling, and ought to continue ten days together, without any other meat, giving them the eleventh day a little Barley, and so forward to the fourteenth; after which day, continue them in that dyet ten days longer, and then bring them forth to exercise a little, and when as they sweat, anoint them with Oyl; and if the weather be cold, keep a fire in the stable: And you must remember when the Horse beginneth to purge, that he be kept from Barley and drink, and give him green meat, or *Bullimung*, whereof that is best that groweth near the Sea side.

But if the Horse go to soil in *April*, after five days, bring him forth, and wash him all over with water, then wiping his hair from all wet and filth, and loose hairs, pour upon him Wine and Oyl, pressing it smooth upon his back, down to his skin; so let him be wiped all over again, and carryed into the stable, to be dieted with *Masline*, or *Bullimung*, as before, except he be troubled with the Glanders, and then he must not feed on it in the day time, lest through the heat of the Sun, he fall into the mangie, or into madness.

It is also requisite, that while we feed our Horses with green Corn, they be let bloud in the veins of the breast, and also cut in the roof of their mouths, that so those places being emptyed which were stuffed with corruption, the vacuity may be replenished with better bloud; a Horse thus dyed, shall not only live in more health, and free from sickness, but also be more strong to undergo his labour.

With the bloud that cometh out of him, mingled with Nitre, Vinegar, and Oyl, you shall anoint him all over, if so be he be subject to the Glaunders, or to the Mangie; and then keep him in the stable five days together, suffering no Curri combe to come upon him, untill the sixth day, feeding him in the mean time with green Corn or *Bullimung*; and then bring him forth again, washing him all over with water, and rubbing him with a hard whisp, untill the humor or moistures be wholly wiped off, and he fed as before fourteen days together.

If you please not to keep him in the stable, then in the Spring time, turn him out in some meddow, or green pasture, and there let him feed at his own pleasure; for it hath been often proved, that such a dyet hath recovered many sick Horses.

It is reported of the *Horotæ*, and *Gedrussi*, and men of *Freeceland*, the *Macedonians*, and *Lydians*, do feed their Horses with fishes: Likewise the *Pæonians* which inhabit about *Præsius* near the Mountain *Orbelus*, do feed their Horses, and all Cattel which they yoke with fishes.

Concerning the drink of Horses we have spoken elsewhere, and therefore we shall not need to say any thing of it here, except that the drinking much, and the Horse thrusting his head in deep into the troubled water, is an unfallible sign of his goodnes; and the custom of some is, for to give their Horses mashes made of water and corn sod together, or else Bear, Ale or Wine, by drinking whereof, they encrease their spirits and stomach.

Albertus saith, that some to make their Horses fat, take Snails, and beat them in pieces, so putting them into their meats, whereby they grow to a false fatnesse, which is easily dissolved. By eating of black Hellebor, Oxen, Horses and Swine are killed: and thus much for the food of Horses.

Concerning the voice of Horses, the *Latins* call it *Hinnitum*, and the *Grecians*, *Phruma*, and *Phrumatesta*; but this is certain, that from their very foaling, the females have a shrill and sharper voice then the males, which is fuller and broader, untill they be two year old, and after copulation their voice encreaseth, so continuing untill they be twenty year old, after which time, it falleth and decreaseth again.

The time of
their life.

The length of a Horses life (according to *Aristotle*) is eighteen or twenty years, and if they be well tended and regarded in their youth, it hath been found, that some have lived unto five and twenty, or thirty year old. The females live longer then the males, because of their generation, for

for the immoderate lust of Horses, shortneth their dayes. And it hath been found that a Mare hath lived to forty or fifty years, and a Horse to three and thirty: wherefore I do leave the relation of *Pliny* and *Athenæus*, to be censured by the Reader, who affirm, that Horses in their time, lived threescore or seventy years.

Albertus also affirmeth, that a Souldier told him for a certain truth, that he knew a Horse which lived till he was threescore years old, and at that age did service in the field. And *August. Niphus* also affirmeth, that the Riders of *Ferdinand* the first, told him there was a Horse in their Masters stable of seventy year old. The age of a Horse may be known by his teeth, and the *Persian*, *Bohemian*, *Epirian*, and *Sicilian* Horses, live longer then the *Spanish* or *Numidian*. In their years, the female never groweth after five, nor the male after six in height or length, so as the males are sooner perfited in the womb then the females, on the contrary the females do looner grow to their perfection after their foaling then the Males.

The males have more teeth then the females, and in each sex they which have fewest teeth, live not so long, and in their old age their teeth grow white. Now their age is discerned by their teeth on this manner, the first four, that is two above and two beneath, be changed after they be thirty year old, and a year after the four next are changed in like manner, again after another year four more are changed, so that after four year and six moneths, he looseth no teeth, except canine, which cometh again in the fift and sixt year; so that afterwards their age cannot be discerned, because in the seaventh year, they are all filled. Another unfained note of their age, is the hollownes of their temples, and their eye-lids beginning to wax gray, and their teeth hanging out of their mouths. They have also little blacks in the middle of their teeth. Some try the age of their Horses, as a wise and learned man writeth, by considering twelve teeth, six above, and six beneath, for the old Horses have longer and thinner teeth, which are black at the top, and there are certain broaches or wrinkles in their teeth, which being filled, the mark is said to be out of their mouth.

Some try the age of their Horses by their cheeks, for they pull up the skin from the bones, and if it will quickly fall back again into his former place, they take it for an assured token of the Horses youth: but if it stand out and fall slowly down, then on the contrary, they judge the Horse to be old, and thus much for the age and diet of Horses.

Of the uses of Horse-flesh, Mares-milk, and other parts.

There are certain people in *Scythia*, which were called *Hippobagi*, because they lived upon Horse-flesh; such also were the *Sarmatians* and the *Vandals*: likewise in *Scythia* the lesse, neer *Taurica Chersonesus*, the people do not only eat the flesh of Horses, but also their milk, and make Cheese thereof.

Athenæus also affirmeth, that the manner of the ancient *Persians* was, upon the feasts of their nativities to roast an Ox, an Asse, a Horse, and a Camel whole, and so set them before their guests.

In like sort, they eat Horse-flesh and Camels-flesh at *Damascus*; and in *Polonia* wilde Horses, especially that part which groweth under the mane. The *Sarmatians* made meat of Millet-seed, and mingle it with Mares milk, or with bloud taken out of the veins of their legs, wherewithal they make puddings, and this is their chief food. So likewise do the *Tartarians*, who having a Horse sick, cut off his Ulcer or wound, and so kill him and eat his flesh. The *Gothes* also in the dayes of *Virgil* did drink the bloud of Horses, as appeareth in these Verses;

*Profruit intensos æstus avertere, & inter
Ima ferire pedis, salientem sanguine venam:
Bisaltæ, quo more solent, acerque Gelonus,
Cum fugit in Rhodopen, atque in deserta Getarum,
Et lac concretum cum sanguine potat equino.*

Mat. Michon.
Pau. Venetus.

The Poets do also fain, that *Pelias* the Son of *Tirus* and *Neptune*, was educated by a Mare, and *Metabus* brought up his Daughter *Camilla* with Mares milk, because she was born wilde, he also bred her among the bushes, according to these Verses;

*Hic natam in dumis, interque horrentia lustra
Armentalis equæ mammæ, & lacte ferino
Nutribat, teneris immulgens ubera labris.*

The *Tartarians* drinke Mares milke, which they dresse like white wine, and call it *Oburnis*, whereof *Paulus Venetus* rehearseth this story: The King of *Tartar*, saith he, nourisheth above ten thousand milk-white Horses and Mares, and every year, upon the eight and twenty day of *August*, they observe a solemn feast, wherein the milk of these white Mares is dresse and set forth in comely vessels.

Afterward the King taketh a bowl full thereof, and powreth it on the ground round about him, being so taught by his *Magitians*, to offer Sacrifice to the gods of his Countrey: For they perswade him,

him that the Gods lick up that milk spilt on the ground, and afterwards the King drinketh up the residue, and besides him no body that day, except it be of the Kings lineage, or of the Countrey of *Horiach* (for the people of that Countrey have liberty to tast thereof that day) because of a battle which once they obtained for the great *Cam*.

The property of this milk is to loosen the belly; and because it is thin and hath no fat in it, therefore it easily descendeth, and doth not curdle in the stomach, and it is said, that the *Seythians* can keep it twelve dayes together, therewithal satisfying their hunger, and quenching their thirst. And thus much shall satisfie for the natural discourses of Horses: hereafter followeth the moral.

The moral discourse of Horses, concerning Fictions, Pictures, and other devises.

And first of all for the moral dignity of Horses, there is a celestial constellation called *Hippos*, according to these Verses of *Aratus* thus translated;

*Huic Equus ille jubam quatiens fulgore micanti
Summum contingit caput alvo stellaque jurgens
Una.*

The *Latins* call this star *Pegasus*, and they say that he is the Son of *Neptune* and *Medusa*; who with striking his foot upon a Rock in *Helicon* a mountain of *Bœtia*, opened a Fountain, which after his name was called *Hippocrene*. Others tell the tale in this sort, at what time *Bellerophon* came to *Præus* the Son of *Abas* the King of the *Argives*, *Antia* the Kings wife fell in love with her guest, and making it known unto him, promised him half her husbands Kingdom if he would lie with her, but he like an honest man abhorring so foul a fact, utterly refused to accomplish the desire and dishonesty of the lustful Queen; whereupon she being afraid lest he should disclose it unto the King, prevented him by her own complaint, informing the King that he would have ravished her: when the King heard this accusation (because he loved *Bellerophon* well) would not give punishment himself, but sent him to *Schenobæus* the Father of Queen *Antia*, that he in defence of his Daughters chastity might take revenge upon him, who presently cast him to *Chimera*, which at that time depopulated all the coast of *Lycia*: but *Bellerophon* by the help of the Horse *Pegasus* did both overcome and avoid the monster, and being weary of his life, perceiving that there was no good nor truth upon the earth, determined to forsake the world and flie to heaven: who coming neer to heaven, casting down his eyes to the earth, trembled to see how far he was distant from it, and so his heart fainting for fear, fell down backward and perished, but his Horse kept on his flight to heaven, and was there placed among the Stars by *Jupiter*. *Euripedes* telleth the tale otherwise, for he saith that *Chiron* the *Centaure* had a Daughter nourished in the mountain *Pelios* which was called *Theas* and afterward *Hippe*, because of her exceeding hunting on horse-back, she was perswaded by *Æolus* (the Son of *Hellen*, a Nephew of *Jupiter*) to let him lie with her, whereupon she conceived with childe, and when the time of her deliverance came, she fled from her Father into the woods, for fear the loss of her Virginity should be known unto him; but he followed her to see what was the cause of his Daughters departure, whereupon she desired of the Gods that her father might not see her in travel, her prayer was granted, and she after her delivery, was turned into a Mare, and placed among the Stars.

Others say that she was a Prophetesse, and because she revealed the counsels of the Gods, was therefore metamorphozed in that shape in the place aforesaid. Others say, that because she gave over to worship *Diana*, she lost her first presence. But to return to the first tale of *Bellerophon*, who after the death of *Chimera*, growing proud for his valor attempted to flie to heaven, but *Jupiter* troubled his Horse with a Fury, and so he shooke off his Rider, who perished in the field, *Alecu* *apo tefe alese*, because of his errour: and *Pegasus* was placed in heaven.

But to come nearer to the description of the Poeticall Horse, *Albertus Magnus* and some others say, that it is a Beast bred in *Ethiopia*, having the head and feet of a Horse, but horned, and wings much greater then the wings of an Eagle, which he doth not lift up into the air like a bird, but only stretcheth them out when he runneth, whereby his only presence is terrible to all creatures, unto whom he is enemy, but especially to Men. But for the truth hereof (although *Pliny* and some others seem to affirm as much) yet will I set down nothing for truth and certainty, because as the Poets call every swift Horse *Volucres*, and *Alipedes*; so the error of that figure, hath rather given occasion to the framing of this new Monster *Pegasus*, then any other reasonable Allegory.

Likewise I know no cause why the Poets should fain, that *Ceres* was turned into a Mare, and hid her self in the herds of *Oncius*; *Neptune* falling in love with her, followed her to those fields, and perceiving that he was deceived, turned himself also into a Horse, and so had to do with her, whereat *Ceres* was grievously offended, and fell into a great fury, for which cause she was called *Erinny*: yet afterwards she washed her self in the River *Ladon*, laying aside all her rage and fury, at the fulness of time she brought forth *Aion*.

And

And the *Arcadians* also had a certain Den, wherein they had a great remembrance of this ravishment of *Ceres*, sitting in a Den, wherein they say she hid her self from all creatures, and whereunto they offer divine worship. They picture her in a Colts skin, sitting like a woman in all parts, with a long garment down to her ancles, but the head of a Horse with the pictures of many Dragons, and other such wilde beasts, holding in one of her hands a Dolphin, and in the other a Dove.

By all which it is not uneasie for every man to know & conceive their meaning, that plenty of food signified by *Ceres*, doth not only maintain Men, Fowls, Beasts and Fishes, but also the immoderate use thereof draweth men to inordinate lust and concupiscence, and that the Gods of the Heathen were more rather to be accounted Beasts than Men.

Diana also among the *Arcadians* was called *Eurippa*, for the finding out of those Mares which *Ulysses* had lost: which *Ulysses* erected a statue for *Neptune* the great Rider, and they say that *Hippolytus* being torn in pieces by Horses, through the love of *Diana*, and skill of *Æsculapius*, by the vertue of certain herbs he was restored unto life again: Whereupon *Jupiter* being sore vexed and angry with *Æsculapius* for such an invention, deluding as it were the fury of the Gods, killed him with lightning, and thrust him down into hell, because no wretched man would fear death if such devises might take place: which fact *Virgil* describeth in these Verses:

*At Trivia Hippolytum secretis alma recondit
Sedibus, & nymphæ Egeriæ nemorique relegat,
Solum ubi in silvis Italici ignobilis ævum
Exigeret, versoque ubi nomine Virbius esset.*

*Unde etiam Triviæ templo lucisque sacratis
Cornipedes arcentur equi, quod listore currum
Et juvenem monstriis pavidi effudere marinis.*

The Poets also do attribute unto the night, black Horses, and unto the day white. *Homer* saith, that the names of the day Horses are *Lampus* and *Phaethon*; to the Moon they ascribe two Horses, one black and another white; the reason of these inventions for the day and the night is, to signifie their speedy course or revolution by the swiftness of Horses, and of the darkeness of the night by the black Horses, and the light of the day by the white; and the Moon which for the most part is hid *Textor*. and covered with earth, both increasing and decreasing, they had the same reason to signifie her shadowed part like a black Horse, and her bright part by a white one.

The like Fiction they had of *Hecate*, whom *Ausonius* calleth *Tergemina*, because she is described with the head of a Horse, a Dog, and a wilde Man, the Horse on the right hand, the Dog on the left hand, and the wilde Man in the middle: whereby they declared how vulgar, illiterate, and uncivilized men, do participate in their conditions, the labours and envie of brute beasts. *Heliodorus*.

We may also read in the *Annales* of *Tacitus*, that in his time there was a Temple raised to Equestrial fortune, that is, for the honour of them which managed Horses to their own profit, and the good of their Countrey, and that *Fulvius* the *Prætor* in *Spain*, because he obtained the victory against the *Celtiberians*, by the valour and diligence of his Horse-men, was the first that builded that Temple. Likewise, there was another Temple in *Bæotia* for the same cause dedicated unto *Hercules*.

The ancient *Pagans* call the God of Horses *Hippona*, as the God of Oxen *Bubona*. It is also apparent, that many Nations use to sacrifice Horses, for at *Salentinum* a Horse was cast alive into the fire and offered to *Jupiter*. Likewise the *Lacedæmonians* sacrificed a Horse to the winds. At *Rome* also they sacrificed a Horse to *Mars*, and thereof came the term of *Equus October*, which was sacrificed every year in *October*, in *Campus Martius*. This Horse was often take out of a Chariot, which was a Conqueror in race, and stood on the right hand; as soon as he was killed, some one carried his tail to a place called *Regia*, and for his head there was a continual combat betwixt the inhabitants of the streets, *Suburra*, and *Sacravia*, which of them should possesse it; for the *Suburrans* would have fastened it to the wal of *Regia*, and the *Sacraevians* to the Tower *Mamillia*. *Cælius*.

The reason why they Sacrificed a Horse, some have conjectured because the *Romans* were the off-spring of the *Trojans*, and they being deceived by a Horse, their posterity made that Sacrifice for punishment of Horses: but it is more reasonable, that because they Sacrificed a conquering Horse, they did it only for the honour of *Mars* (the God of victory) or else because they would signifie, that flying away in battle was to be punished by the example of Sacrificing of a swift Horse. *Giraldus*.

The *Carmani* did also worship *Mars*, and because they had no Horses to use in War, they were forced to use Asses, for which cause they Sacrificed an Ass unto him. There is another fable amongst the Poets, that the *Methimneans* were commanded by the Oracle to cast a Virgin into the Sea to *Neptune*, which they performed: now there was a young man whose name was *Ennallus*, which was in love with the said Virgin, and seeing her in the Waters, swum after her to save her, but both of them were covered with the waters of the Sea; yet after a certain space *Ennallus* returned back again, and brought news that the Virgin lived among the Pharies of the Sea, and that he after that he had kept *Neptunes* Horses, by the help of a great wave escaped away by swimming; for the Poets saith that *Neptunes* Chariot was drawn by Horses of the Sea, according to these Verses of *Gillius*; *Festus*.

*Non aliter quotiens perlabitur aquora curru
Extremamque petit Phæbea cubilia Tethyn
Frenatis Neptunus equis*

Idolatri by the
pictures of
Horses.

Munster.

They also faign that the Sun is drawn with two swift white Horses, from whence came that abomination, that the Kings of *Judea* had erected Horses and Chariots in honour of the Sun, which were set at the entrance of the Temple of the Lord; which Horses were destroyed by *Josias*, as we read in holy Scripture. And the manner of their abomination was, that when they did worship to the Sun, they road upon those Horses from the entrance of the Temple to the chamber of *Nethan-melech*. The *Persians* also Sacrificed a Horse to *Apollo* according to these Verses of *Ovid*:

*Placat equo Persis, radiis Hyperiona cinctum,
Ne detur sceleri victima tarda deo.*

And for this cause the *Massagetes* sacrificed a Horse (the swiftest of all Beasts) unto the Sun, the swiftest of all the Gods. *Philostratus* also recordeth, that *Palamedes* gave charge to the *Grecians* to Sacrifice to the Sun rising a white Horse. The *Rhodians* in honor of the Sun did cast yearly away into the Sea, the Chariots dedicated to the Sun, in imagination that the Sun was carryed about the World in a Chariot, drawn by six Horses.

The ceremony
of the *Persians*
going to war.

As the Army of the *Persians* did proceed forward on their journey, the fire (which they did call Holy and Eternal) was lifted up on silver Altars; presently after this, there followed the Wise-men, and after those Wise-men came 165 young men, being cloathed with as many red little garments as there are dayes in the year: Instantly upon the same, came the holy Chariots of *Jupiter*, which was drawn by white Horses; after which, with a resplendent magnitude the Horse of the Sun was seen to appear (for so it was called) and this was the manner of their Sacrifices.

Cælius.

The King of *Indians* also (as is said) when the dayes began to wax long, he descended down to the River *Indus*, and thereunto sacrificed black Horses and Bulls; for the Bulls in ancient time were consecrated to the Rivers, and Horses also were thrown therinto alive, as the *Trojans* did into *Xanthus*.

Varrinus.
Strabo.

The *Veneti* (which worshiped *Diomedes* with singular honour) did Sacrifice to him a white Horse: when the *Thebans* made war on the *Lacedemonians*, it is said that *Cædajus* appeared in a vision to *Pelopidas*, one of the *Theban* Captains, and told him that now the *Lacedemonians* were at *Leuctra*, and would take vengeance upon the *Thebans*, and their Daughters; Whereupon *Pelopidas* to avert that mischief, caused a young foal to be gallantly attired, and the day before they joyned battle, to be led to a Sepulcher of their Virgins, and there to be killed and sacrificed.

Plutarch.

The *Thessalians* observed this custome at their marriages and nuptial Sacrifices, the man took a Horse of War armed and furnished, which he led into the Temple; after the Sacrifice ended he delivered the reins of the Bridle into the hands of his Wife, who led the same Horse home again: but for what signification or cause this rite was observed, *Ælianus* which relateth the story sheweth not, but saith he referreth himself to the *Thessalians* to declare their own reasons of this observation. And thus much shall suffice concerning the Sacrificing of Horses.

The burial of
Horses.

Another moral-honour done unto them was their burial; For we have shewed already that *Volucer* the Horse of *Vermus* the Emperour was honourably buried, the Mares of *Cinon* which had won three games at *Olympus*, were likewise interred neer his own body. The *Scythians* at the burial of their Kings used for to strangle one of his harlots, his cupbearer, his Cook, his Horse-keeper, his Messenger, and also Horses and other Cattle; and after a year they do this the second time; taking fifty of his dearest servants which were natural *Scythians* and strangled them; likewise fifty of his best Horses, out of whose bellies they pull out their bowels and guts, and filling their bellies up again with chaffe, they sow them up: then make they half an arch upon two posts standing upright, and likewise the other half upon two other posts over the Kings grave; likewise fastening in the earth divers other sharp posts upon which they put the fifty Horses, so fastening them with thick pieces of timber all along their neck and back, so that the shoulders of the Horses rest upon the fore-arch and their bellies on the hinder, their legs standing upward, then bridle they the Horses, and stretch forth the reins of their bridles unto the posts of the earth, afterwards upon every one of the dead Horses they lay a dead man, putting a stake through his back out of his neck, and the neather part of the said stake they fasten in the post, which pierceth or goeth through the Horse; and thus having compassed about the grave of their King, with such Horses and Horse-men, they depart, leaving both the one and the other to the consumption of nature, and after this manner did they bury all their Kings.

Dion.

Adrian buried his Hunting Horse, *Ennomus* his Mares, *Partheria* and *Eripba*. Likewise *Miltiades*, *Evagoras*, and *Augustus* the Emperour. At *Agrigentum* also there are many *Pyramides* erected upon the Sepulchres of Horses. And thus much shall suffice for the burial of Horses.

We have shewed you already how Men and Women have been transformed into Horses, according to the fiction of the Poets, as of *Saturne*, *Jupiter*, *Neptune*, *Ceres*, *Hippes*, and *Ocyrrhoes* the Daughters of *Chiron*. In like sort there have been predictions or ostentations of things to come, taken from a Wolf, a Fox, a Serpent, and a Horse, which were called *Aspicia Pedestria*. Ælianus.
Pliny.
Festus.
Predictions or
Augurisms by
Horses.

Dreams also have been declared by Horses, for *Publius Vatinius* in the *Macedonian* war, coming towards *Rome* in the night time, supposed he saw two young men of excellent beauty to meet him, and tell him that *Perfes* the King was taken by *Paulus*, which thing he declared to the Senate, but was by them put into prison as a contemner of the Majesty and honour of that Captain, but afterwards it appeared by the letters of *Paul* that *Perfes* was taken that very day; whereupon *Vatinius* was delivered out of Prison, and rewarded with land and liberty.

It also appeareth that the same day that *Castor* and *Pollux* washed away the sweat of themselves and their Horses in the lake of *Futurne*, that they watched for the safety of the *Roman* Empire, and their Temple which was joyned to the same fountain being fast locked, upon a suddain flew open without the hand of man. Valer. Max.

Aeneas also in *Virgil* saith, that he knew war would follow by the appearance of four Horses, which in a green field set upon a whole Campe, whereupon in *Virgil*, he speaketh thus to *Anchises*.

*Quatuor hic, primum omen, Equos in gramine vidi
Tondentes campum late, candore nivali.
Et pater Anchises, Bellum O terra hospita portas;
Bello armantur equi, Bellum hæc armenta minantur.*

*Sed tamen iidem olim curru succedere sueti
Quadrupes, & fræna iugo concordia ferre;
Spes est pacis, ait.*

Lucan also speaketh to the same purpose that Horses presage war;

*Primus ab equorea percussis conspice saxis
Thessalicus sonipes bellis feralibus omen
Exiluit*

Alexander also writeth, that the *Germani* were wont to bring up white Horses which were never used to labour, by whose neighing they were forewarned of wars, and of other strange events. It is vulgarly known how *Darius* came to the Kingdom of *Persia*, after it was agreed amongst the seven Princes, that he whose Horse did first neigh in the morning in a place appointed, should be saluted King, *Ebores* his rider in the night time took one of the Mares which he knew his Masters Horse loved, and led her into the Suburbs, and there tied her, afterward he brought thither *Darius* his Horse, and led him about her two or three times, and at length suffered him to cover her, and so led them both away together. In the next morning the Princes met as soon as day brake, and road up and down the Suburbs, until at last they came to the place where the Mare of *Darius* was tyed the night before, whereunto the Horse of *Darius* ran neighing strongly, and presently it thundred and lightned in a clear day: whereupon the residue of the Princes alighted from their Horses, and did reverence to King *Darius*, who by divine appointment was thus advanced to the Scepter.

Although there be some that say *Ebores* by handling of a Mares genital and keeping his hand warm, untill they came to the place aforesaid, there stroking the Nostrils of his Masters Horse, caused him thus to neigh and win the Kingdom; yet I rather incline to the former opinion which was related by *Herodotus* in his *Thalia*.

There have also been Horses of strange fashions, for as we have shewed already, that a Mare did bring forth a Hare, so also (*Livie* saith) an Ox did bring forth a Foal. *Nero* did shew certain *Hermaphrodite* Mares, wherewithal his Chariot was drawn, which was a thing worth the sight, that the Monarch of the world should sit upon Monsters. Of Monster
Horses.

Julius Cesar had a Horse which had cloven hoofs like a Mans fingers, and because he was foaled at that time when the Sooth-sayers had pronounced that he should have the government of the world, therefore he nourished him carefully, and never permitted any man to back him but himself, which afterwards he dedicated in the Temple of *Venus*, for he conceived that such a strange beast bred in his own flock, was a prediction unto him of great honour. The *Palatine* of *Vilva* had a Horse foaled with five legs, and *Henry* the Count *Palatine* had likewise a Horse with six legs. Thus much may suffice for the monster Horses. Pliny.
Dion.
Cælius.

In the next place it is good to enquire what the *Centaures* are, who are described by the Poets to have their forepart like men, and their hinder part like Horses, the occasion whereof is thus related by *Pindarus*: that *Centaurus* the Son of *Ixion*, committed buggery with the Mares of *Magnetia*, under the mountain *Pelias*, from whence came that monstrous birth in the upper part resembling the Father and in the neather the mother. These saith he possessed the Mountains and Desert places of *Thessaly*, being given to all manner of Latrociny and Deprædation. They were called also *Hippocentauri*: And some say that they were first of all nourished by the Nymphes in the mountain *Pelias*, who afterwards being the first that tamed Horses, were thought to be half Men, and half Horses, because they were seen backward, and from hence came the fable that they were tamed by *Hercules*.

Of Centaures

Hercules, which was one of his greatest labours: But yet that no man may wonder or think it impossible that such monstrous creatures should have existence in nature, these authorities following may perswade sufficiently.

Plutarch in his Banquet of Wisemen, affirmeth, there was a Horse-keeper which brought into the house of *Periander* an Infant or rather a Monster which he had got upon a Mare, which had the head, neck, bands and voice of a childe, and the other parts like a Horse, *Diocles* presently judged it to be a Monster, and signified contentions and strifes in the world. But *Thales* told *Periander* he was of another opinion, namely, that it was no Monster, but a meer natural birth from such a copulation, and therefore advised *Periander*, that either he should keep no Riders, or else let them have Wives.

Claudius Caesar also writeth, that in the time of his reign there was such a one born in *Thessaly*, which dyed the same day it was born: and *Pliny* that he afterwards saw it seasoned in hony, brought out of *Egypt* to be shewed to the Emperor. These *Centaures*, *Homer* calleth *Fera*, that is, *Fera*, wilde persons. The *Lapithæ* and the *Centaures* are said to be very like the one to the other, and were also once very loving, but they fell afterwards to deadly war, by reason the *Centaures* in a banquet being drunk, offered to ravish the females of the *Lapithæ*, for which cause the *Lapithæ* slew them in their jealousy, whereon fell a mortal war: whereby the Poets signifie how intemperancy in Men and Beasts doth not only bring with it other sins, but also causeth much slaughter. And so I conclude the story of *Centaures*, holding it possible that such should be generated by unclean and natural copulation, but impossible that they should live long after birth, and therefore the *Centaures* of the Poets are nothing else but men sitting on Horseback, mistaken for one entire creature which were divided, and so conclude with the Verse of *Horace*:

Humano Capiti cervicem pictor Equinam

Jungere si velit.

Hoc monstrum puto Centaurus foret.

Of the statues and figures of Horses.

Pollux.

IT was no small dignity that the ancient *Cephalenes* did stamp their money with the picture of a Horse, for surely from them it came, that coin was first of all called currant, because of the image of a speedy Horse, wherewithal it was imprinted. *Textor* also writeth, that amongst the ancients there was a custom to make the Character of a Horse in the forehead of a bondslave; there was also images of Horsemen and Horses renowned in many Countries for the honour of both, such were the statues of the *Amazons* (cald *Hippiades*) who by *Lysias* the Orator are said to be the first that ever backed Horses: Such was the statue of *Clælia*, *Quintus Martius*, *Tremulus*, *Domitianus*, and many other both Men and Women: for the Romans had the Equestrial statues in great reverence and ceremony, no doubt in imitation of the *Grecians*, but with this difference, that they pictured none but the swift Horses, but the Romans, Horses and Chariots, and from hence came the custome to have Chariots in triumph.

But this custome to have six Horses in a Chariot was brought in last of all by *Augustus*. *Aristodemus* pictured the Chariots and Wagoner. *Pisicrates* the woman *Pitho*, with a Wagon. *Euthyocrates*, the Son of *Lysippus* expressed the Equestrial combat at the Oracle of *Trophonium* with singular art, also many Chariots of *Medea*, the Horse and his carriage. There were also earthen Chariots at *Rome* in the porch of *Jupiters* Temple, as we have shewed before in the discourse of Chariots.

Amianus.

When *Constantinus* the great took a view of the City of *Rome*, and passing from place to place, came at length to *Forum Trajani*, the most exquisite building of all the world, he stood amazed at the admirable frame of Giants, which were lineally deciphered therein, whereof despairing to imitate any part of that work, he chose only to erect the picture of such a Horse and Prince, as in the middle of the same was erected in remembrance of *Trajane*, and so much he intimated to his followers: close by him stood that Princely *Hormisdas* (a Persian) who made the Emperour this answer, *Ante imperator stabulum tale condi iubeto si vales: Equus quem fabricare disponis ita late succedat ut iste quem videmus: O Noble Emperour before you make such a Horse, first of all build such a stable; that your work in all parts may be correspondent to this which you propose unto your self to imitate.*

Metellus the Macedonian raised two porches which were compassed about with two Horses, without inscription or dedication, which now are compassed with the porches of *Octavia*, and the row of Equestrial statues in the front of the said buildings, now the greatest ornament of that place, he also brought out of *Macedonia*. And it is said that *Alexander* the great caused *Lysippus* (that singular workman) to frame the pictures of all those Knights which in his company were slain at the River *Granicum*, and also to place his own picture among them.

In the City of *Rome* there are two mountains called *Equilini*, in one of them are the bathes of *Diocletian*, and the great Marble Horses, with two men half naked, holding their rains, being most singular wormanship, whereof one hath this inscription in Latin letters, *Opus Praxitelis*, the work of *Praxiteles*; the other *Opus Phidias*, the work of *Phidias*: and it is clear, that they were brought thither

thither by *Tyridates* King of *Armenia*, for whose entertainment *Nero* caused the Theatre of *Pompey* to be covered all over with gold in the space of one day. The story of the *Trojan Horse* is vulgarly *Sipontinus*. known, which is also called *Equus Durateus*, or *Dureus*, wherein the *Grecian Princes* hid themselves, when they took *Troy*, according to these Verses;

Nec cum durateus Trojanis Pergama partu

Inflammascit Equus nocturno Grajugenarum.

The truth whereof standeth thus, The *Grecians* making shew that they had vowed a vow unto *Pallas*, framed a Horse of so great bigness, that it could not be taken into *Troy*, except the gates were pulled down; and this they placed hard to the wals of *Troy*: *Sinon* (the counterfeit runnagate) being then within the wals among the *Trojans*, perswaded them to pull down their wals and pull in that wooden Horse; affirming that if they could get it, *Pallas* would stand so friendly to them that the *Grecians* should never be able to move war against them: wherefore they pull down their gates, and part of their wall, and by that means do bring the Horse into the City: while the *Trojans* were thus revelling and making merry with themselves, and not thinking of any harm might ensue upon them, the leaders of the *Grecian Army* who by deceit all this while kept themselves close hid, (ever since which time the *Grecians* are tearmed of all Nations deceitful) on a suddain rose out of their lurking places, and so going forward invaded the City, being destitute of any defence, and by this means subdued it.

Others are of opinion, that the Poets fiction of the *Trojan Horse*, was no other but this, that there was a mountain neer *Troy* called *Equus*, and by advantage thereof *Troy* was taken, whereunto *Virgil* seemeth to allude, saying;

Instar montis Equum divina Palladis arte

Ædificant.

For they say, that *Pallas* and *Epew* made the Horse, and therefore I conjecture, that the *Trojan Horse* was nothing else but an engine of War, like unto that which is called *Aries*: For *Pausanias* saith, that *Epew* was the inventer thereof. And *Higinus* saith, that the *Trojan Horse* was *Machina oppugnatoria*, a devise of war, to overthrow the wals.

Of this Horse there was a brazen image at *Athens* in *Acropolis*, with this inscription, *Cheridemus, Fuangeli filius calenatus dicavit*. When *Alexander* looked upon his own picture at *Epbefus* which *Apelles* had drawn with all his skill, the King did not commend it according to the worth thereof: It fortun'd that a Horse was brought into the room, who presently neigh'd at the picture of *Alexanders* Horse, smelling unto it as to a living Horse, whereat *Apelles* spake thus to the King;

Ho men Hippos eoice sou graphicoteros cata polu.

That is to say, The Horse is a better discerner of truth then you.

There was one *Phormis* which went from *Menalus* in *Arcadia* into *Sicilia*, to serve *Gelon* the Son of *Dinomenes*, under whom and his brother *Hiero* he arose to great estate of wealth, and therefore he gave many gifts to *Apollo* at *Delphos*, and made two brazen Horses with their riders at *Olympia*, setting *Dionisus* the *Grecian* upon one, and *Simon Egineta* upon the other.

Æmilius Censorinus (a cruel Tyrant in *Sicilia*) bestowed great gifts upon such as could invent new kinde of torments; there was one *Aruntius Paterculus*, hoping to receive from him some great reward, made a brazen Horse, and presented it to the Tyrant: to include therein such as he should condemn to death: at the receipt whereof *Æmilius* which was never just before, first of all put the Author into it that he might take experience how cursed a thing it was to minister unto cruelty.

Apelles also painted *Clytus* on Horse-back hastening to war, and his Armour-bearer reaching his helmet unto him, so lively, that other dumb beasts were affraid of his Horse. And excellent was the skill of *Nealces*, who had so pictured a Horse foaming, that the beholders were wont to take their handkerchiefs to wipe it from his mouth. And thus much for the moral uses of Horses.

Of the several diseases of Horses and their cures.

Seeing in this discourse I have principally aimed at the pleasure, delight, and profit of *Englishmen*, I have thought good to discourse of the diseases of Horses and their cures in the words of our own Countrey-men, *M. Blundevile*, and *M. Markham*, whose works of these matters are to be recorded like the *Iliads* of *Homer* in many places and several Monuments, to the intent that envy or Barbarism may never be able to bury them in oblivion, or neglect to root them out of the world, without the losse of other memorable labours.

Wherefore good Reader, for the ensuing Tractate of diseases and cures compiled by them, after that I had read over the labours of C. Gesner, and compared it with them, finding nothing of substance in him, which is not more materially, perspicuously, profitably, and familiarly, either extracted or expressed by them, in a method most fitting this History, I have thought good to follow them in the description of the disease and the remedy; first (according to time) declaring them in the words of M. Blund. and afterwards in the words of M. Markham, methodically one after the other, in the same place: wherewithal I trust the living authors will not be displeased, that so you may with one labour examine both; and I hope, that neither they, nor any of their friends or Scholars shall receive any just cause of offence, by adding this part of their studies to our labours, neither their books imprinted, be any way disgraced or hindered, but rather revived, renobled, and honoured. To begin therefore (saith Master Blundevile) after the discourse of the nature of a Horse followeth those things which are against nature, the knowledge whereof is as needfully profitable as the other. Things against nature be those whereby the healthful estate of a Horses body is decayed, which are in number three; that is, the causes, the sickness, and the accidents; of the two first in order, and the other promiscuously as need requireth.

Of causes and kinds thereof.

Blundevile.

THe causes of sickness be unnatural affects, or evill dispositions preceding sickness, and provoking the same, which of themselves do not hinder the actions of the body, but by means of sickness coming betwixt. Of causes, some be called internal, and some external. Internal be those that breed within the body of the Beast, as evil juice. External be those that chance outwardly to the body, as heat, cold, or the stinging of a Serpent, and such like. In knowing the cause of every disease, consisteth the chief skill of the Farriar. For unlesse he knoweth the cause of the disease, it is impossible for him to cure it well and skilfully. And therefore I wish all Farriars to be diligent in seeking to know the causes of all diseases, as well in the parts similar, as instrumental, and to know whether such causes be simple, or compound; for as they be simple or compound, so do they engender simple or compound diseases.

Of sickness, what it is, and how many general kinds there be; also with what order the diseases of Horses are herein declared. And finally, of the four times, belonging to every sickness.

Sickness is an evill affect contrary to nature, hindering of it self, some action of the body. Of sicknesses there be three general kinds, whereof the first consisteth in the parts similar; the second in the parts instrumental; and the third in both parts together. The first kind is called of the *Latins* *Intemperies*, that is to say, evil temperature, which is either simple or compound. It is simple, when one quality only doth abound or exceed too much, as to be too hot, or too cold; it is compound, as when many qualities do exceed, as when the body is too hot and too dry, or too cold and too moist. The second kind is called *Mala constitutio*, that is to say, an evill state or composition, which is to be considered, either by the shape, number, quantity, or sight of the member, or part evill affected or diseased. The third kind is called *Unitatis solutio*, that is to say, the loosening or division of the unity, which as it may chance diversly, so it hath divers names accordingly; for if such solution or division be in a bone, then it is called a fracture; if it be in any fleshie part, then it is called a Wound or Ulcer; in the veins, a Rupture; in the sinews, a Convulsion or Cramp; and in the skin, an Excoriation.

Again, of diseases, some be called long, and some sharp and short, called of the *Latins*, *Morbi acuti*, which be perillous and do quickly kill the body. The long, do tarry longer by it. Yet moreover, there is sickness by it self, and sickness by consent: Sickness by it self, is that which being in some member, hindereth the action thereof by it self. Sickness by consent, is derived out of one member into another, through the neighbourhood and community that is betwixt them: as the pain of the head which cometh from the stomach.

Thus the learned Physitians which write of Mans body, do divide sickness. But *Absyrus* writing of Horse-leach craft, saith of that sickness, or rather malady (for so he termeth it, using that word as a general name to all manner of diseases that be in a Horse) there be four kinds, that is to say, the moist malady, the dry malady, the malady of the joynts, and the malady betwixt the flesh and the skin. The moist malady is that which we call the Glanders. The dry malady is an incurable consumption, which some perhaps would call, the mourning of the chein, but not rightly, as shall appear unto you hereafter. The malady of the joynts comprehendeth all griefs and sorances that be in the joynts. And the malady betwixt the flesh and the skin, is that which we call the Scab. Unto which four kindes of maladies, *Vegetius* addeth three others, that is, the Farcine, the paine of the Reins or Kidnies, and the cankered Manginess, most commonly called of the old writers the Leprosie; and so maketh seven kindes of maladies, under which all other particular diseases are comprehended.

Again,

Again, *Laurentius Rufinus*, useth an other kind of division of sickness. Of Horses diseases, saith he, some be natural, and some accidental. The natural be those that do come either through the excellence, or lack of engendring seed, or by error of nature, in misforming the young, or else by some defect of the dam or sire, in that perhaps they be diseased within, and have their seed corrupted.

The accidental diseases be those that come by chance, as by surfering, of cold, heat, and such like thing. But forasmuch as none of these writers do follow their own divisions, nor handle the parts thereof accordingly: to avoid their confusion, and to teach plainly: I thought good and profitable therefore to use this my own division [and order here following.

First then, of diseases some be inward, and some be outward. The inward be those that breed within the Horses body, and are properly called maladies and diseases, whereof some do occupy all the whole body, and some particular parts or members of the body.

Of those then that occupie all the body, and not be accident to any private member, I do first treat, as of Agues, of the Pestilence, and such like, and then of those that be incident to every particular member, beginning at the head, and so proceed orderly throughout all the members, even down to the sole of the foot, observing therein so nigh as I can, the self same order that *Galen* useth in his book, *De locis male affectis*, declaring what manner of disease it is, and how it is called in *English*, and also in *Italian*, because the Kings stable is never without *Italian* Riders, of whom our Farriers borrowed divers names, as you shall perceive hereafter. Then the causes whereof it proceeds, and the signes how to know it, and finally, the cure and diet belonging to the same; and because I find not inward diseases enow to answer every part of the body, I do not let to interlace them with outward diseases incident to those parts; yea rather, I leave out no outward disease belonging to any particular member, and to the intent you may the better know to what diseases or sorances every part or member of the Horses body is most commonly subject. And note by the way, that I call those outward diseases that proceed not of any inward cause, but of some outward cause, as when a Horse is shouldered by means of some outward cause, or his back galled with the saddle, or his sides spurgalled, or his hoof cloid with a nail, which properly may be called sorances or griefs.

Thirdly, I talk of those diseases as well outward as inward, that may indifferently chance in any part of the body, as of Impostumes, Cankorous Ulcers, Wounds, Fistulaes, Burnings, Brusings, Breaking of bones, and such like.

Fourthly, because most diseases are healed either by letting of blood, by taking up of veins, by purgation, or else by cauterisation, that is to say by giving the fire: I talk of those four necessary things severally by themselves; and finally I shew you the true order of paring and shoeing all manner of hoofs, according as the diversity of hoofs require: and to the intent you may the better understand me, you have the perfect shapes of all necessary shooes, plainly set forth in figures before your eyes. Thus much touching mine order which I have hitherto observed.

Now it is necessary to know, that to every disease or malady, belongeth four several times, that is to say, the beginning, the increasing, the state, and declination, which times are diligently to be observed of the Farrier, because they require divers applying of medicine; for that medicine which was meet to be used in the beginning of the disease, perhaps is not to be used in the declination thereof: and that which is requisite, and very needful, to be applyed in the state or chiefest of the disease, may be very dangerous to be used in the beginning. And therefore the Farrier ought to be a man of judgement, and able to discern one time from another, to the intent he may apply his medicines rightly. Hither of causes and sickness in general. Now it is also meet, that we speak in general of signes whereby sickness is known.

Of the signes of sickness in general.

Sickness according to the learned Physitians, is known four manner of wayes. First, by inseparable or substantial accidents, as by the shape, number, quality, and sight of the part or member diseased. For if it be otherwise formed, or more or lesse in number or quantity, or else otherwise placed then it ought to be, then it is not well. Secondly, sickness is known by alteration of the quality, as, if it be too hot, or too cold, too moist, or too dry. Thirdly, when the action of any member is hurt or letted, as when the eye-sight is not perfect, it is a manifest sign that the eye is evill affected or sick. Likewise, when there breedeth no good blood in the body, it is an evident token that the Liver is not well. Fourthly, sickness is known by the excrements that come from the Beast, as by dung or stale; for if his dung be too strong of sent, full of whole Corns, or of Wormes, too hard, or too soft, or evill coloured, it is a token that he is not well in his body: so likewise if his stale be too thick, or too thin, too white, or too red, it betokeneth some surfet, raw digestion, or else some grief in his reins, bladder or stones. But *Vegetius* saith, that it is best known, whether a Horse be sick or not, or toward sickness, by these signes here following; for if he be more slow and heavie in his trotting, or galloping, harder of Spur then he was wont to be, or spreadeth his litter abroad with his feet, often tumbling in the night season, fetching his breath short and violently, loud snuffling in the Nose, and casting out vapors at his Nostrils, or lyeth down immediately

after his provender, or maketh long draughts in his drinking, or in the night season is now down, and now on foot, or if in the next morning he be very hot in his pasterns, or betwixt his ears, or that his ears hang more then they are wont to do: again, if his eye sight be dim, and his eyes hollow in his head, his hairs standing right up, and his flanks hollow and empty, whensoever two or three of these signes do concur together, then it is to be thought, saith *Vegetius*, that the Horse is not well, and therefore he would have him immediately to be separated from his companions that be whole, and to be placed by himself untill his disease be perfectly known and cured, and especially if it be any contagious disease.

I have seen divers Farriars here in *England* to use that for the trial of a Horses sickness, which I never read in any Author, that is, to feel his stones, whether they be hot or cold, and to smell at his nostrils, and so by the savour thereof to judge what sickness the Horse hath. Truly I think that no evill way, if they can discern with their sense of smelling, the diversity of savours, that cometh out of his Nostrils, and then aptly apply the same to the humours whereof such savours be bred, and so orderly to seek out the originall cause of his sickness. But I fear me, that more Farriars smell without judgement, then with such judgement, and no marvell why, sith that few or none be learned, or have been brought up with skilful Masters. But from henceforth I trust that my travail will cause such Farriars as can read, and have some understanding already, to be more diligent in seeking after knowledge then they have been heretofore, whereby they shall be the better able to serve their Countrey, and also to profit themselves, with good fame, whereas now for lack of knowledge they incur much slander.

Of the Fever and divers kinds thereof in a Horse.

Blondeville.

I Think it will seem strange unto some, to hear that a Horse should have an Ague or Fever, but it was not strange unto the men of old time, as to *Abfyrus*, *Hierocles*, *Xenophon*, *Vegetius*, and such like old Souldiers, throughly experimented in Horses griefs. A Fever, according to the learned Physitians, is an unnatural and immoderate heat, which proceeding first from the heart, spreadeth it self throughout all the arteries and veins of the body, and so letteth the actions thereof.

Of Fevers there be three general kinds, whereof the first, is that which breedeth in the spirits, being inflamed or heated more then their nature requireth. The second breedeth in the humors, being also distempered by heat. The third in the firm parts of the body, being continually hot. What spirits and humors be, hath been told you before in the keepers Office. Of these three general kinds do spring many other special kinds, as Quotidians, Tertians, Quartans, Fevers Hectick, and very many others, whereunto mans body is subject, whereof none of my Authors do treat, unless *Vegetius*, who speaketh somewhat of a Fever Quotidian, of a Fever continual, and also of a Fever accidental. He speaketh also of Summer, Autumn, and Winter Fevers, without making any great difference betwixt them, more then that one is worse then another, by reason of the time and season of the year, so that in effect all is but one Fever. Wherefore according unto *Abfyrus* opinion, I will briefly shew you first the causes whereof it proceeds, and then the signes how to know it, and finally how to cure the same.

The Fever chanceth sometime by sursetting of extreme labour or exercise, as of too much travelling, and especially in hot weather, of too swift galloping and running, and sometime by extreme heat of the Sun, and also by extreme cold of the aire, and sometime it breedeth of crudity or raw digestion, which many times happeneth by over greedy eating of sweet green corn, or of such provender as was not thoroughly dried or cleansed: for after such greedy eating, and specially such meat, never followeth perfect digestion. The signes to know a Fever be these, The Horse doth continually hold down his head, and is not able to lift it up, his eyes are even blown so as he cannot easily open them: yea and many times they be watering, the flesh of his lips and of all his body is lush and feeble, his stones hang low, his body is hot, and his breath is very hot and strong, he standeth weakly on his legs, and in his going draweth them lasiely after him, yea he cannot go but very softly, and that staggering here and there he will lie down on his side, and is not able to turn himself, or to wallow; he forsaketh his meat both hay and provender, and is desirous of nothing but of drink, which, as *Abfyrus* saith, is an assured token of a Fever: he also sleepeth but little. The cure and diet. Let him bloud in the face and temples, and also in the palat of his mouth, and the first day give him no meat, but only warm drink, and that by little and little. Afterward give him continually grasse, or else very sweet hay wet in water, and let him be kept warm, and sometime walke him up and down fair and softly in a temperate air, and then let him rest, and when you see that he begins to amend, give him by little and little at once Barley fair sifted and well foddren, and also mundified, that is to say, the huske pulled away, like as when you blanch Almonds.

Of divers sorts of Fevers according to Vegetius, and first of that which continueth but one day.

THe Fever of one day called by the *Greek* name *Ephemera*, or else by the *Latin* name *Diaria*, chan-
ceth many times through the rashness and small discretion of the keeper, or some other that
letteth not to ride a Horse unmeasurably, either before or after watering, whereby the Horse after-
ward in the stable entrencheth into an extreame heat, and so falleth into his Fever, which you shall know
partly by his waterish and bloud-shotten eyes, and partly by his short violent and hot breathing
and panting. Moreover, he will forsake his meat, and his legs will wax stiffe and feeble. The cure. Let
him have rest all the next day following, and be comforted with warm meat, then let him be walked
up and down fair and softly, and so by little and little brought again to his former estate.

Of the Fever continual.

THe Fever continual, is that which continueth without intermission, and is called in *Italian* by
the *Latin* name *Febris continua*, which springeth of some inflammation or extreame heat, bred in
the principal members or inward parts, about the heart, which is known in this sort. The Horse
doth not take his accustomed rest, whereby his flesh doth fall away every day more and more, and
sometime there doth appear hot inflammations in his flanks, and above his withers. The cure; Purge
his head by squirting into his Nostrils Mans urine, or the Water of an Ox that hath been rested a
certain time, to the intent such water may be the stronger, and then give him the drink written in
the next Chapter.

Of the Fever taken in the Autumn, that is to say, at the fall of the leaf.

IF a Horse chance to get a Fever at the fall of the leaf, cause him immediately to be let blood in
the neck vein, and also in the third furrow of the roof of his mouth, and then give him this drink;
Take of Jermander four ounces, of Gum-dragant, and of dried Roses, of each one ounce, beat them
all into fine powder, and put them into a quart of Ale, adding thereunto of Oil-olive four ounces,
and of Hony as much, and give it the Horse lukewarm.

Of the Fever in Summer season.

A Fever taken in Summer season is much worse then in any other time, and especially if it be
taken in the Dog days, for then the accidents be more furious. The signes be these, his arteries
will beat evidently, and he will shed his seed when he stalet, and his going will be unorderly. The
cure; Let him blood in a vein that he hath in his hinder hanch, about four fingers beneath the fun-
dament, or if you cannot finde that vein, let him blood in the neck vein, toward the withers, and if
it be needful you may also give him this drink; Take the juyce of a handful of Parslein mingled with
Gum-dragant, with Ensens, and a few Damask roses, beaten all into fine powder, and then put
thereunto a sufficient quantity of Ale made sweet with Hony.

Of the Fever in Winter.

FOr the Fever in Winter, it shall be good to take the powder of the drugs last mentioned, and
with a quill or reed, to blow it up into his left nostril to make him to neefe. It shall be good also
to let him blood in the neck vein, and in the palat of the mouth, and then give him one of these
drinks here following; Take of Ireos six ounces, of round Pepper one ounce, of Bay berries, and of
the seed of Smallage, of each one ounce, and let him drink them with soddin Wine. Or else take a
pinte of good Milk, and put therein of Oile four ounces, of Saffron one scruple, of Myrrhe two
scruples, of the seed of Smallage a spoonful, and make him drink that: or make him this drink;
Take of Aristoloch, otherwise called round Hartwort, one ounce, of Gentian, of Hyssop, of Worm-
wood, of Sothernwood, of each one ounce, of dry fat figs six ounces, of the seed of Smallage three
ounces, of Rue a handful, boil them all in a clean Vessel with River Water, untill the third part be
consumed, and when you see it look black and thick, take it from the fire, strain it, and give the
Horse to drink thereof lukewarm.

As touching his diet, let his water be alwayes lukewarm, wherein would be put a little Wheat
meal, and remember to give him no meat so long as his fit continueth. And because in all Agues it
is good to quicken the natural heat of the Horse, by rubbing and fretting his body; it shall not be
amisse in some fair day to use this Friction, called of the ancient writers *Apotorapie*, which is made in
this sort, Take of Damaske Roses one pound, of old Oil a pint, of strong Vinegar a pint and a
half, of Mints and Rue beaten into powder, of each one ounce and a half, together with one old dry
Nut, beat them and mingle them together, then being strained and made lukewarm, rub and chafe
all the Horses body therewith against the hair, untill he beginneth to sweat, then set him up in the
warmest place of the stable, and cover him well.

Blundevile.

Blundevile.

Of the Fever which cometh of raw Digestion, or of Repletion.

YOU shall know if the Fever proceedeth of any such cause, by these signes here following. The Horse will blow at the nose more then he is accustomed to do, seemeth to fetch his winde only at his nose, and his breath will be short, hot and dry, you shall see his flanks walk, and his back to beat. The cure: Cause him to be let blood abundantly in the head and palat of his mouth, and by squirting warm Vinegar in the morning into his nostrils, force him to neefe: and if he be costive, let his fundament be raked, or else give him a Glyster to ease the pain in his head. And as touching his diet, give him but little provender or hay, neither let him drink much nor often, but betwixt times. But in any wise let him be well rubbed and chafed, and that a good while together, and if you use the Friction declared in the last Chapter before in such sort as there is said, it shall do him very much good.

Of the Fever accidental coming of some Vicer in the mouth or throat.

THE Horse not being well kept and governed, after that he hath been let blood in the upper parts; yea, and also besides that of his own nature is subject unto the distillation in his throat, or parts thereabout, the painful swelling or Ulcer whereof, causeth the Horse to fall into a grievous Ague. Whereof, besides the former remedies apt to purge humors, it shall be necessary also, to let him blood in the vein of the head, and in the palat of his mouth, and to be short, in all those places where the disease causeth most grief. And if the Horse be so sore pained as he cannot swallow down his meat, it shall be good to give him lukewarm water mingled with Barley meal, or Wheat meal, and beside that, to make him swallow down seven sops sopped in Wine one after another, at one time: some use at the second time to dip such sops in sweet Sallet Oil. Thus far *V. getius*.

Of the Pestilent Ague.

Blundevile.

IT seemeth by *Laurentius Russius*, that Horses be also subject to a Pestilent Fever, which almost incurable, is called of him *Infirmas Epidemialis*, that is to say, a Contagious and pestiferous disease, whereof there dyed in one year in *Rome* above a thousand Horses, which as I take it came by some corruption of the air, whereunto *Rome* in the chief of Summer is much subject, or else corrupt humours in the body ingendered by unkind food, by reason perhaps, that the City was then pestered with more Horse-men then there could be conveniently harbored or fed. *Laurentius* himself rendereth no cause thereof, but only sheweth signes how to know it, which be these; The Horse holdeth down his head, eateth little or nothing, his eyes waterish, and his flanks do continually beat. The Cure: First give him this Glyster, Take of the pulp of Coloquintida one ounce, of Dragantum one ounce and a half, of Centaury and Wormwood, of each one handful, of *Castoreum* half an ounce, boil them in Water, then being strained, dissolve therein of Gerologundinum six ounces, of Salt an ounce and a half, and half a pound of Oil-olive, and minister it lukewarm with a horn, or pipe made of purpose. Make also this Plaister for his head; Take of Squilla five ounces, of Elder, of *Castoreum*, of Mustard seed and of *Eusorbium*, of each two ounces, dissolve the same in the juice of Daffodil, and of Sage, and lay it to the Temples of his head next unto his eares; or else give him any of these three drinks following, Take of the best Triacle two or three ounces, and distemper it in good Wine, and give it him with a horn; or else let him drink every morning the space of three dayes, one pound or two of the juyce of Elder roots; or else give him every morning to eat, a good quantity of *Venus* hair, called of the *Latins*, *Capillus Veneris*, newly and fresh gathered, but if it be old, then boil it in Water, and give him the decoction thereof to drink with a horn.

Martins opinion and experience touching a Horses Fever.

Blundevile.

THOUGH *Martin* have not seen so many several kinds of Fevers to chance to Horses, yet he confesseth that a Horse will have a Fever, and saith, that you shall know it by these signes; For after the Horse hath been sick two or three dayes, if you look upon his tongue you shall see it almost raw and scalt, with the heat that comes out of his body, and he will shake and tremble, reel and stagger when his fit cometh, which fit will keep his due hours, both of coming and also of continuance; unlesse you prevent it by putting the Horse into a heat, which would be done so soon as you see him begin to tremble, either by riding him, or tying up his legs, and by chafing him up and down in the stable, untill he leave shaking, and then let him be kept warm, and stand on the bit the space of two houres, that done, you may give him some hay, by a little at once, and give him warm water, with a little ground malt twice a day, the space of three or four dayes, and once a day wash his tongue with Alomwater, Vinegar & Sage. But if you see that all this prevails not, then purge him with this drink, after that he hath fasted all one night; Take of Aloes one ounce, of Agarick half an ounce, of Licoras and Annis seeds, of each a dram beaten to powder, and let him drink it with

with a quart of white wine likewarme, and made sweet with a little hony in the morning fasting, and let him be chafed a little after it, and be kept warm, and suffered to stand on the bit mearleste two or three hours after, and he shall recover his health again quickly.

Of sickness in general, and the Fever.

IN general, sickness is an opposite foe to nature, warring against the agents of the body and mind, seeking to confound those actions which uphold and maintain the bodies strength and lively-hood. Who coveteth to have larger definition of sickness, let him read *Vegetius*, *Rufus*, or excellent Master *Blundevile*, who in that hath been admirably well-deserving painful. For mine one part, my intent is to write nothing more then mine own experience, and what I have approved in Horses diseases most availeable: and first of the Fever or Ague in a Horse, though it be a disease seldom, or not at all noted by our Mechanical Horse Farriers, who cure many times what they know not, and kill where they might cure, knew they the cause: yet I have my self seen of late (both by the demonstrate opinions of others better learned, and by the effects of the disease) some two Horses which I dare avouch were mightily tormented with a Fever; though divers Leeches had thereof given divers opinions, one laying it was the Bots, by reason of his immoderate languishment: another affirmed him to be bewitched, by reason of great shaking, heaviness, and sweating: but I have found it and approved it to be a Fever, both in effect, nature, and quality; the cure whereof is thus; for the original cause of a Fever, is surfet, breeding putrifaction in the blood; then when his shaking beginneth, take three new laid Egges, break them in a dish, and beat them together, then mix thereto five or six spoonfuls of excellent good *Aquavite*, and give it him in a horn, then bridle him, and in some Close or Court, chafe him till his shaking cease, and he begin to sweat: then set him up and cloath him warm. And during the time of his sickness, give him no water to drink, but before he drink it, boil therein Mallowses, Sorrel, Purslain, of each two or three handfals.

As for his food, let it be sodden Barly, and now and then a little Rie in the sheaf to clense and purge him, chiefly if he be dry inwardly and grow costive. This I have proved uneffectless for this disease, and also much availeable for any other inward sickness proceeding either of raw digestion, too extream riding, or other surfet. Divers have written diversly, of divers Agues, and I could prescribe receipts for them, but since I have not been experimented in them all, I mean to omit them, intending not to exceed mine own knowledge in any thing.

Of the Pestilence.

THe Pestilence is a contagious disease, proceeding, as *Pelagonius* saith, sometime of overmuch labour, heat, cold, hunger, and sometime of sudden running after long rest, or of the retention or holding of stale or urine, or of drinking cold water whiles the Horse is hot and sweating: for all these things do breed corrupt humors in the Horses body, whereof the Pestilence doth chiefly proceed, or else of the corruption of the air, poisoning the breath whereby the Beasts should live, which also happeneth sometime of the corruption of evill vapors and exhalations that spring out of the earth, and after great floods or earthquakes, and sometime by means of some evill distillation or influence of the Planets, corrupting sometime the plants and fruits of the earth, and sometime divers kind of Cattle, and sometime both Men, Women and Children, as we dayly see by experience. It seemeth that this evill or mischief in times past came suddenly, without giving any warning, for none of mine Authors doth declare any signes how to know whether a Horse hath this disease or not, but only affirm, that if one Horse do die of it, all his fellows that bear him company will follow after, if they be not remedied in time: so that as far as I can learn, the sudden death of one or two first, must be the only mean to know that this disease doth reign. And the remedy that they give is this; First separate the whole from the sick; yea, and have them clean out of the air of those that be dead, the bodies whereof, as *Vegetius* saith, if they be not deep buried, will infect all the rest. And let them blood as well in the neck, as in the mouth; and then give them this drink, Take of Gentian, of Aristoloch, of Bay berries, of Myrrhe, of the scraping of Ivory, of each like quantity, beat them into fine powder, and give as well to the sick as to the whole, whom you would preserve from this contagion, every day a spoonful or two of this powder in a pinte of good Wine, so long as you shall see it needful. This medicine before rehearsed, is called of the ancient writers *Diapente*, that is to say, a composition of five simples, and is praised to be a sovereign medicine and preservative against all inward diseases, and therefore they would have such as travell by the way, to carry of this powder alwayes about them.

There be many other medicines which I leave to write, because if I should rehearse every mans medicine, my book would be infinite; I for my part would use no other then that before expressed, or else Wine and Treacle only.

Of the Diseases in the Head.

Blundevile.

The head is subject to divers diseases according to the divers parts thereof: for in the panicles or little fine skins cleaving to the bones, and covering the brain, do most properly breed head-ach and Migram. Again, in the substance of the brain, (which in a Horse is as much in quantity as is almost the brain of a mean Hog) do breed the Frensie, madness, sleeping evill, the Palsie and forgetfulness. Finally, in the ventricles or cels of the brain, and in those conducts through which the spirits animal do give feeling and moving to the body, do breed the Turnick or staggers, the Falling-evill, the Night-mare, the Apoplexy, the Palsie, and the Convulsion or Cramp, the Catar or Rhume, which in a Horse is called the Glaunders: but first of Head-ach.

of Head-ach.

The Head-ach either cometh of some inward causes: as of some cholerick humor, bred in the the panicles of the brain, or else of some outward cause, as of extream heat or cold, of some blow, or of some violent savour. Eumelus saith, that it cometh of raw digestion: but Martin saith most commonly of cold: the signes be these; the Horse will hang down his head, and also hang down his ears; his sight will be dim, his eyes swollen and waterish; and he will forsake his meat. The cure. Let him bloud in the palat of his mouth: also purge his head with this perfume; Take of Garlike stalks a handful, all to broken in short pieces, and a good quantity of Frankincense, and being put into a chafing-dish of fresh coals, hold the chafing-dish under the Horses nostrils, so as the fume may ascend up into his head: and in using him thus once or twice, it will make him to cast at the nose, and so purge his head of all filth. Pelagonius saith, that it is good to pour into his nostrils Wine, wherein hath been lodden Enforbium, Centaury, and Frankincense.

Of the Frenzy and Madness of a Horse.

The learned Physitians do make divers kindes, as well of Frensie, as of Madness, which are not needful to be recited, sith I could never read in any Author, nor learn of any Farriar, that a Horse were subject to the one half of them. Absyrus, Hierocles, Eumelus, Pelagonius, and Hippocrates, do write simply *de furore & rabie*: that is to say, of the madness of a Horse. But indeed, Vegetius in his second Book of Horse-leach-craft, seemeth to make four mad passions belonging to a Horse, intituling his Chapters in this sort, *de Appiso*, *de Frenetico*, *de Cardiacu*, *de Rabioso*, the effects thereof, though I fear me it will be to no great purpose, yet to content such as perhaps have read the Author as well as I my self, I will here briefly rehearse the same.

When some naughty bloud (saith he) doth strike the film or pannicle of the brain, in one part only, and maketh the same grievously to ache, then the beast becometh *Appiosum*; that is to say, as it seemeth by his own words next following, both dull of minde and of sight. This word *Appiosum* is a strange word, and not to be found again in any other Author, and because in this passion, the one side of the head is only grieved, the Horse turneth round, as though he went in a Mill. But when the poyson of such corrupt bloud doth infect the mid brain, then the Horse becometh Frantick, and will leap and fling, and will run against the wals. And if such bloud fillet the veins of the stomach, or breast, then it infecteth as well the heart as the brain, and causeth alienation of minde, and the body to sweat, and this disease is called of Vegetius, *Paffocardiaca*, which if *Equus Appiosus* chance to have, then he becometh *Rabiosus*, that is to say, stark-mad. For saith he, by overmuch heat of the liver and bloud, the veins, and arteries of the heart are choaked up, for grief and pain whereof the Horse biteth himself, and gnaweth his own flesh.

Of two sorts of mad Horses, I believe I have seen my self here in this Realm. For I saw once a black *Sweatband* Horse (as I took him to be) in my Lord of *Hunsdon* stable at *Hunsdon*, coming thither by chance with my Lord *Morley*, which Horse would stand all day long biting of the manger, and eat little meat or none, suffering no man to approach unto him, by which his doings, and partly by his colour and complexion, I judged him to be vexed with a melancholy madness called of the Physitians *Mania*, or rather *Melancholia*, which cometh of a corrupt Melancholy, and filthy bloud or humor, sometime spread throughout all the veins of the body, and sometimes perhaps remaining only in the head, or else in the spleen, or places next adjoyning. The other mad Horse was a Roan of Master *Astlies*, Master of the Jewel house, which with his teeth crushed his Masters right forefinger in pieces, whilst he offered him a little Hay to eat, whereby he lost in a manner the use of his whole hand, to the great grief of all his friends, and also of all the Muses, which were wont to be much delighted with such passing sweet musick as that his fine quavering hand could sometime make upon divers Instruments, but especially upon the Virginals.

This Horse I say, though he could eat his meat, drink his drink, and sleep: yet if he were never so little offended, he would take on like a spirit, and both bite and strike at any man that came nigh him: yea and would bite himself by the shoulders most terribly, pulling away lumps of flesh, so broad as a mans hand: and whensoever he was ridden, he was faine to be musled with a musel of iron, made of purpose to keep him from biting either of his Rider or of himself, which no doubt proceeded of some kinde of frenzy or madness, whereunto the Horse was subject; by means that hot blood

bloud (as I take it) abounded over-much in him. But now as touching the causes, signes, and cure of Horses madness, you shall hear the opinion of old Writers: for *Martin* never took such cure in hand. *Abfirtus* and the other Authors before mentioned, say, that the madness of a Horse cometh either by means of some extreame heat taken by travelling, or long standing in the hot Sun, or else by eating over many fitches, or by some hot bloud resorting to the panicles of the brain; or through abundance of choler remaining in the veins; or else by drinking of some very unwholesome water. The signes be these, he will bite the manger and his own body, and run upon every man that comes nigh him, he will continually shake his ears, and stare with his eyes, and foam at the mouth: and also, as *Hippocrates* saith, he will forsake his meat, and pine himself with hunger.

The cure. Cause him to be let bloud in his legs abundantly, which is done (as I take it) to divert the bloud from his head. Notwithstanding it were not amiss, to let him bloud in the neck and breast veins. Then give him this drink: take the roots of wilde Cowcumber, and boil it in harsh red Wine, and put thereunto a little Nitre, and give it him with a horn luke-warm: or if you can get no Cowcumber, then take Rue, and Mints, and boil them in the Wine: it were not amiss also to add thereunto a handful of black *Elleborus*, for that is a very good herb against madness. *Blumelius* saith, that if you give him mans dung in Wine, to drink three mornings together, it will heal him: also to take of black *Elleborus* two or three handfuls, and boil it in a sufficient quantity of strong Vinegar, and therewith rub and chafe both his head, and all his body once or twice a day; for the oftner his head is rubbed, the better, and often exercise is very profitable to all his body. Some again would have the skin of his body to be pierced in divers places with an hot iron, to let out the evill humors: but if none of all this will prevail, then the last remedy is to geld him of both his Stones, or else of one at the least; for either that will heal him, or else nothing. As touching the diet and usage of a mad Horse, the Authors do not agree; for some would have him kept in a close, dark and quiet house, void from all noise, which as *Abfirtus* saith, will either make him madder, or else kill him out of hand. His diet would be thin, that is to say, without any provender, and that day that he is let bloud, and receiveth his drink, they would have him fast untill even, and then to have a warm mash of Barley meal: yea, me thinks it were not amiss to feed him only with warm mashes and hay; and that by a little at once, untill he be somewhat recovered.

Another of the Head-ach.

THe Head-ach, as most are opinionated, proceedeth of cold and raw digestion: the cure is; Take *Markham*. a Goose feather anointed with Oyl-de-bay, and thrust it up into the Horses nostrils, to make him neese; then take a wreath of Pease-straw or wet hay, and putting fire thereunto, hold it under the Horses nose, so as the smoke may ascend up into his head; then being thus perfumed, take a knife and prick him in the palate of the mouth, so that he may lick up and chaw his own bloud, which done, have great care in keeping his head warm, and doubt not his recovery.

Of the Sleeping-evill.

THis is a disease forcing the Beast continually to sleep, whether he will or not, taking his memory and appetite clean away, and therefore is called of the Physitians *Lethargus*, it proceedeth of abundance of flegm moistning the brain overmuch. It is easie to know it, by the continual sleeping of the Horse. The cure of this disease according to *Pelagonius*, *Vegetius*, and others, is in this sort: Let him bloud in the neck, and then give him this drink: Take of Camomile and Mother-wort, of each two or three handfuls, and boil them in a sufficient quantity of water, and put thereunto a little Wheat-bran, Salt and Vinegar, and let him drink a pinte of that every day, the space of three or four days together. It is good also to perfume and chafe his head, with Thyme and Pennyroyal sodden together in Vinegar, or with Brimstone and feathers burned upon a chafingdish of coals under his nose: and to provoke him to neese, by blowing Pepper and Pyrethre beaten to powder, up into his nostrils: yea and to anoint the palate of his mouth, with Honey and Mustard mingled together, and in his drink, which would be always warm water, to put Parsley seed, and Fennel seed, to provoke urine. His legs also would be bathed, and his hoofs filled with Wheat-bran, Salt, and Vinegar, sodden together, and laid to so hot as he may endure it, and in any case suffer him not to sleep, but keep him waking and stirring, by continual crying unto him, or pricking him with some sharp thing that cannot pass through the skin, or else by beating him with a whip, and this doing he shall recover.

Another of the Sleeping-evill.

THe Sleeping-evill in a Horse, differeth nothing from that which the Physitians call the Lethargy *Markham*. in men, for it provoketh the Horse to sleep continually, without desisting, robbing his memory and appetite of their qualities: the knowledge thereof is easily known by his drowsiness, and the cure in this sort: Let one stand by him, and either with fearful noise or stripes, perforce keep him waking; then let him bloud under the eyes, and in the neck, and then take a leaf or two of the best Tobacco, which being dried and beaten to powder, with a quill blow it up into his nostrils, and give him to drink Vinegar, Salt, and Mustard mingled well together, to which if you put a little Honey,

Honey, it shall not be amiss; and also when he drinketh any water, put thereto either Fennel-seeds, Aniseeds or Pepper.

Of a Horse that is taken.

Blundevile.

A Horse is said to be taken, when he is deprived of his feeling and moving, so as he is able to stir in any manner of way, but remaineth in such state and form, as he was taken in; which disease is called of the Physitians by the Greek name *Catalepsis*, and in Latine, *Deprehensio*, or *Congelatio*; and of *Vegetius*, *Sideratio*; which also calleth those Beasts that have this disease *Jumenta sideratitia*. The Physitians say, that it cometh of abundance of phlegm and choler mixt together, or else of melancholy blood, which is a cold dry humor oppressing the hinder parts of the brain. But *Vegetius* saith, that it comes of some extream outward cold, striking suddenly into the empty veins, or some extream heat or raw digestion; or else of some great hunger, caused by long fasting. It is easie to know by the description before mentioned.

As touching the cure, *Vegetius* saith, that if it come of cold, then it is good to give him to drink one ounce of *Laserpitium*, with Wine and Oyl mixt together, and made luke-warm: if of heat, then to give it him with Water and Honey: if of crudity, then to heal him by fasting: if of hunger, then by feeding him well with Pease. But *Martin* saith, that this disease is called of the French men *Surpris*, and it cometh (as he saith) most chiefly of cold taken after heat, and he wisheth a Horse that is thus taken, to be cured in this sort. First to be let blood on both sides of the breast, and then to be put in a heat either by continual stirring and molesting him; or else if he will stir by no means, then to bury him all save the head in a warm dunghill, and there to let him ly untill his limbs have some feeling. And before you so bury him, it shall be good to give him this drink: Take of Malmsey three pintes, and put thereunto a quartern of Sugar, and some Cinamon and Cloves, and let him drink it good and warm, and untill he be perfectly whole, let him be kept warm, and often exercised and walked up and down in the stable, and thinly dieted, and drink nothing but warm water, wherein if you put some Fennel and Parsley seed, to provoke him to urine, it shall be the better. And if he cannot dung, let him be raked, and have a Glyster made of the broth of Mal-lows and fresh Butter.

Another of a Horse that is taken.

Markham.

A Horse which is bereft of his feeling, moving or stirring, is said to be taken, and in sooth so he is, in that he is arrested by so villainous a disease; yet some Farriers, not well understanding the ground of the disease, confter the word taken, to be stricken by some Planet, or evill spirit, which is false; for it proceedeth of too great abundance of phlegm and choler, symbolized together: the cure is thus; Let him blood in his spur veins, and his breast veins, and then by foulding him in abundant number of cloaths, drive him into an extream sweat, during which time of his sweating, let one chafe his legs with Oyl-de-bay; then after he hath sweat the space of two hours, abate his clothes moderately; and throughly after he is dry, anoint him all over with Oyl *Petroleum*, and in twice or thrice dressing him he will be sound.

Of the Staggers.

Blundevile.

This is a dizziness of the head, called in Latine, *Vertigo*; and of the Italians, as I remember, *Capistura*. It cometh of some corrupt blood, or gross and tough humors oppressing the brain, from whence proceedeth a vaporous spirit, dissolved by a weak heat, which troubleth all the head. The signes be these; dimness of sight, the reeling and staggering of the Horse, who for very pain will thrust his head against the walls; and forsake his meat. The cure according to *Martin* is thus:

Let him blood in the temple veins, and then with a knife make an hole an inch long over-thwart his fore-head, hard underneath his fore-top, and raise the skin with a Corner, thrusting it upward towards the head-stale a good handful; and then put in a tent dipt in Turpentine and Hogs greafe molten together, renewing the tent every day once untill it be whole, and do the like upon the ridge of the rump; but me thinks it were better to do the like, in the powl of his head, or nape of his neck, for so should the evill humors have both ways the easier and speedier passage: and as touching his diet, let him have continually warm drink, and mashes; and once a day be walked up and down fair and softly to exercise his body.

Of the Staggers.

Markham.

The Staggers is a dzy disease, breeding frenzy in a Horse, which if it be not instantly helped, is mortal: the cure is thus; Let him blood in the temple veins, and then apply to his temples cloth wet in the juyce of Garlike, and *Aqua vine* mixt together: if you crush Garlike, and put it in his ears, it is excellent; or if you slit his fore-head, and loosening the skin from the bone, taint it with Turpentine and Sallet-oil, it will undoubtedly help him.

Of the Falling-evil.

THis is a kinde of Convulsion or Cramp, called of the Latines by the Greek name *Epilepsia*; in Italian, *Il morbo caduco*, depriving the Beast at certain times, and for a certain space of the use of feeling, hearing, and seeing, and of all the other senses. And although it be a disease hath been seldom seen to chance unto Horses of this Countrey, yet it appeareth by *Abhyrius*, and also by *Vegetius*, and divers others, that Horses be subject thereunto. For *Abhyrius* writing to his friend *Tiberius Claudius* saith, that unto Horses chanceth many times the Falling-sickness. The signs whereof are these; The Horse will fall down suddenly, partly through the resolution of his members, and partly through distension of his sinews, and all his body will quiver and quake, and sometime he will foam at the mouth. *Vegetius* again writeth in this sort; By a certain course of the Moon Horses and other beasts many times do fall, and dy for a time as well as men. The signes whereof are these: Being fallen, their bodies will quiver and quake, and their mouths will foam, and when a man would think that they would dy out of hand, they rise suddenly up and fall to their meat. And by feeling the gristle of their nostrils with your finger, you shall know whether they will fall often or not; for the more cold the gristle be, the oftner, and the less cold it be, the seldomer they will fall. The cure:

Let him bloud abundantly in the neck veins, and within five days after, let him bloud again in the temple veins, and let him stand in a warm and dark stable, and anoint all his body with comfortable Ointments, and his head and ears with Oyl of Bay, and liquid Pitch or Tar, mingled together. And also put some thereof into his ears, and then make a Biggen for him of some soft warm skin, as of a Sheeps skin, or else of Canvas stuffed underneath with Wool, and make him this purging drink. Take of Radish roots two ounces, of the root of the herb called in Latine, *Panax* or *Panaces*, and of Scammony, of each one ounce; beat all these things together, and boyl them in a quart of Honey, and at sundry times as you shall see it needful, give him a good spoonful or two of this in a quart of Ale luke-warm, whereunto would be put three or four spoonfuls of Oyl. It is good also to blow the powder of Motherwort, or of Pyrethrum, up into his nostrils; and if the disease do continue still for all this, then it shall be needful to pierce the skin of his fore-head in divers places with a hot iron, and to let out the humors oppressing his brain.

Of the Night-mare.

THis is a disease oppressing either Man or Beast in the night season when he sleepeth, so as he cannot draw his breath, and is called of the Latines, *Incubus*. It cometh of a continual crudity or raw digestion of the stomach, from whence gross vapours ascending up into the head, do oppress the brain, and all the sensitive powers, so as they cannot do their office, in giving perfect feeling and moving to the body. And if this disease chancing often to a man, be not cured in time, it may perhaps grow to a worse mischief, as to the Falling-evil, Madnes, or Apoplexy. But I could never learn that Horses were subject to this disease, neither by relation, nor yet by reading, but only in an old English Writer, who sheweth neither cause nor signes, how to know when a Horse hath it, but only teacheth how to cure it with a fond foolish charm; which because it may perhaps make you gentle Reader to laugh, as well as it did me, for recreation sake I will here rehearse it. Take a flint stone that hath a hole of his own kinde, and hang it over him, and write in a bill,

In nomine patris, &c.
Saint George our Ladies Knight,
He walked day, so did he night,
Until he her found,
He her beat, and he her bound,

Till truly her troath she him plight,
That she would not come within the night,
There as Saint George our Ladies Knight,
Named was three times, Saint George.

And hang this Scripture over him, and let him alone: with such proper charms as this is, the false Fryars in times past were wont to charm the money out of plain folks purses.

Of the Apoplexy.

THe Apoplexy, is a disease depriving all the whole body of sense and moving. And if it deprive but part of the body, then it is called of the Latines by the Greek name *Paralysis*, in our tongue a Palsie. It proceeds of cold, gross, and tough humors, oppressing the brain all at once, which may breed partly of crudities and raw digestion, and partly by means of some hurt in the head, taken by a fall, stripe, or otherwise. As touching Apoplexy, few or none writing of Horse-leach-craft do make any mention thereof: but of the Palsie *Vegetius* writeth in this manner; A Horse (saith he) may have the Palsie as well as a man, which is known by these signes: He will go grovelling and sideling like a Crab, carrying his neck awry, as if it were broken, and goeth crookedly with his legs, beating his head against the wals, and yet forsaketh not his meat nor drink, and his provender seemeth moist and wet. The cure. Let him bloud in the temple vein, on the contrary side of the wrying of his neck, and anoint his neck with comfortable Oyntment, and splent it with splents of wood to make it

it stand right, and let him stand in a warm stable, and give him such drinks as are recited in the next chapter following. But if all this profiteth not, then draw his neck with a hot iron on the contrary side: that is to say, on the whole side, from the neather part of the ear down to the shoulders, and draw also a good long strike on his temple, on that side, and on the other temple make him a little star in this sort *, and from his reins to his mid back, draw little lines, in manner of a ragged staffe, and that will heal him.

Of the Cramp or Convulsion of the Sinews and Muscles.

A Convulsion or Cramp, is a forcible and painful contraction or drawing together of the sinews and muscles, which do happen sometime through the whole body, and sometime but in one part or member only. And according as the body may be diversly drawn, so do the Physicians, and also mine Authors that write of Horse-leech-craft, give it divers names. For if the body be drawn forward, then they call it in Greek, *Emprostotonos*; in Latine, *Tensio ad anteriora*. And if the body be drawn back, it is called in Greek, *Opisthotonos*; in Latine, *Tensio ad posteriora*.

But if the body be stark and strait, bowing neither forward, nor backward, then it is called simply in Greek, *Tetanos*; in Latine, *Distensio* or *Rigor*: which names also are applyed to the like Convulsions of the neck. Notwithstanding, *Vegetius* writing of this disease, entitleth his chapters *de Roborosis*, a strange rearm, and not to be found again in any other Author. A Convulsion, as I said before, may chance as well to one part or member of the body, as to the whole body: as to the eye, to the skin of the fore head, to the roots of the tongue, to the jaws, to the lips, to the arm, hand or leg: that is to say, whensoever the sinew or muscle serving to the moving of that part, is evill affected or grieved. Of which Convulsions, though there be many divers causes: yet *Hippocrates* bringeth them all into two: that is to say, into fulness and emptiness: for when a Convulsion proceedeth either of some inflammation of superfluous eating or drinking, or for lack of due purgation, or of overmuch rest and lack of exercise, all such causes are to be referred to repletion or fulness. But if a Convulsion come by means of over-much purging or bleeding, or much watching, extream labour, long fasting; or by wounding or pricking of the sinews, then all such causes are to be referred unto emptiness. And if the Convulsion proceed of fulness, it chanceth suddenly, and all at once; but if of emptiness, then it cometh by little and little, and leisurely.

Besides these kindes of Convulsions, there is also chancing many times in a mans fingers, legs and toes, another kinde of Convulsion, which may be called a windy Convulsion, for that it proceeds of some gross or tough vapour, entred into the branches of the sinews, which maketh them to swell like a Lute string in moist weather, which though it be very painful for the time, yet it may be soon driven away, by chafing or rubbing the member grieved with a warm cloth. And this kinde of Convulsion or Cramp chanceth also many times to a Horses hinder-legs standing in the stable.

For I have seen some my self, that have had one of their hinder-legs drawn up with the Cramp almost to the belly so stiffe and hard, as no man hath been able to stir it, neither could the Horse himself set it down to the ground of a long season, which I think might be soon remedied: first by continual chafing, fretting, or rubbing his legs with a good wispe, and then by tying up the other hinder-leg, or else the foreleg on the sore side, whereby he should be forced to set down the pained leg. Thus far I have discoursed of the Convulsion of sinews, and of the causes thereof, according to the opinions of the learned Physicians. Now I will briefly shew you the causes, signes, and cure thereof, according to the doctrine of mine Authors that write of Horse-leech-craft.

Absyrus saith, that this disease doth come, either by driving the Horse into a sweat when he halteth, or for that he hath troden upon some nail, or by taking cold after journeying and sweating in Winter season, whereby his lips are clung together, or by long lying and rest after sweating, whereby the sinews of his fore-legs be nummed, or by having some stripe of his privy members; or by long travelling in the cold Mountains, where Snow and Ice doth abound. For *Theomnestus* writeth, that coming out of *Peonia*, with the King and his Army, and passing over the Mountains to go into *Italy*, there fell such abundance of Snow, as not only many Souldiers dyed, sitting still on their Horses backs, with their Weapons in their hands, being so stark and stiffe, and cleaving so fast to their Saddles, as they could not easily be pulled out of them: but also divers Horses in their going were so nummed as they could not bow their legs: yea and some were found stark dead, standing still on their feet, and few Horses or none escaped at that time free from this Convulsion of sinews, insomuch that *Theomnestus* his own Horse which he loved dearly, was sore vexed therewith. The signes to know whether a Horse be troubled with the Convulsion in the sinews or not, be these:

His head and neck will be so stiffe and stark, as he can bow it no manner of way, his ears will stand right up, and his eyes will be hollow in his head, and the fleshy parts thereof in the great corners, will be turned backward; his lips will be clung fast together, so as he cannot open his mouth, and his tongue so nummed as he can neither eat nor drink; his back-bone and tail will be so stiffe, as he cannot move it one way nor other and his legs so stiffe, as they will not bow, and being laid he is not able to rise, and specially on his hinder-legs, but falleth down on his buttocks, like a Dog when he sitteth on the ground; and by means of the Convulsion in his back, his bladder also for neighbour-hood sake, suffereth, whereby the Horse cannot stale, but with great pain. The cure.

Put him into a sweat, either by burying him all save the head in some warm dunghill; or if he be a Horse of price, carry him into a hot house, where is no smoke, and let him sweat there. Then anoint all his body, head, neck, legs, and all, with Oyl of Cypres, and Oyl of Bay mingled together. Or else with one of these Ointments: Take of Hogs grease two pound, of Turpentine half a pound, of Pepper beaten in powder one dram, of new Wax one pound, of old Oyl two pound; boil all these together, and being made very warm, anoint all his body therewith. Or else with this Ointment: Take of new Wax one pound, of Turpentine four ounces, of Oyl-de-bay as much, of Opopanax two ounces, of Deers sewet and Oyl of Storax, of each three ounces, melt all these together, and anoint all his body therewith.

It is good also to bath his head with the decoction of Fitches, or else of Lupines, and make him this drink: Take twenty grains of long Pepper, finely beaten into powder, of Cedar two ounces, of Nitre one ounce, of *Lasertium* as much as a Bean, and mingle all these together with a sufficient quantity of white Wine; and give him thereof to drink a quart every morning and evening, for the space of three or four days; or else this drink: Take of Opopanax two ounces, of Storax three ounces, of Gentian three ounces, of Manna Succary three ounces, of Myrrhe one scruple, of long Pepper two scruples, give him this with old Wine: or make him a drink of *Lasertium*, Cumin, Anise seed, Fenigreek, Bay-berries, and old Oyl.

In old time they were wont to let him bloud in the Temples, which *Absyrus* doth not allow, saying, that it will cause the sinews of his lips to dry up, so as the Horse being not able to move them, shall pine for hunger. As touching his diet, give him at the first warm mashies, and such soft meat as he may easily get down, and wet Hay, bringing him to harder food by little and little. And in any case, let him be kept very warm, and ridden or walked once a day to exercise his legs and limbs. *Theomnesius* cured his Horse, as he saith, by placing him in a warm stable, and by making a clear fire without any smoke round about him; and the Horse not being able to open his jaws of himself, he caused his mouth to be opened, and put therein sops dipt in a confection called *Enrignon conditum*, and also anointed all his body with a Medicine or Ointment called *Acopum* (the making whereof hereafter followeth) dissolved in Cypres Oyl, which made him to fall into a sweat, and being before half dead and more, brought him again to his feeling and moving, so as he did rise and eat his meat.

Of the Cramp or Convulsions of the Sinews or Muscles.

A Convulsion or Cramp, is a forcible drawing together of the sinews, sometimes universally over the whole body; as I have seen one Horse in my life time, and sometimes but in one part or member, as I have known and helpt divers. These Convulsions have two grounds, namely, either natural, or else accidental; natural, as proceeding of cold windy humors ingendered in the body, and dispersed into those parts, work there the effects of grievance. Accidental, is by wounding or pricking the sinews, of which immediately ensueth a Convulsion. If it be natural, and the disease generally dispersed; then the cure is thus: Dig a great deep hole in some old dunghill, and there bury him all save the head, so as he may sweat there for the space of two hours at the least; then take him out, and anoint his body all over with Nerve oil, Turpentine, and Deers suet mingled together on the fire, and bath his head in the juyce of Rue and Camomile.

Then give him to drink old Ale brewd with Cinamon, Ginger, Fenigreek and long Pepper: of each three ounces. As for his diet, let it be warm mashies, sodden wheat and hay, thoroughly carded with a pair of Wool-cards: let him be kept very warm and aired abroad once a day at the least.

If this Convulsion be but only in one member; then it is sufficient, if every day with hard ropes of hay or straw you rub and chafe that part exceedingly, and apply there to a little quantity of the Oyl of Pepper. If the Convulsion be accidental, proceeding of some hurt, whereby the sinew is wounded or prickt; then shall you incontinently take up the sinew so wounded, searching the wound with great discretion, and cut it clean in sunder; then shall you endeavour to heal up the same with unguents, plaisters and balms, as shall be hereafter mentioned in the chapters of wounds and ulcers, of what kinde or nature soever.

Of the Cold in the Head.

According as the cold which the Horse hath taken, is new or old, great or small, and also according as humors do abound in his head, and as such humors be thick or thin, so is the disease more or less dangerous. For if the Horse casteth little or no matter out of his nose, or hath no very great cough, but only heavy in his head, and perhaps lightly cougheth now and then, it is a sign that he is stopped in the head, which we were wont to call the pose. But if his head be full of humors congealed by some extreame cold taken of long time past; and that he casteth foul filthy matter out at the nose, and cougheth grievously; then it is a sign that he hath either the Glaunders, or the Strangullion, mourning of the chein, or Consumption of the Lungs. For all such diseases do breed for the most part of the rheume or distillation that cometh from the head. Of the cures thereof we leave to speak, until we come to talk of the diseases in the throat, minding here to shew you how to heal the pose or cold before mentioned.

Blunderile.

Martin saith, it is good to purge his head, by perfuming him with Frankincense, and also to provoke him to neeze, by thrusting two Goose feathers dipt in Oyl-de-bay up into his nostrils, and then to trot him up and down half an hour, for these feathers will make him to cast immediately at the nose. *Laurentius Russius* would have him to be perfumed with Wheat, Pennyroyal, and Sage sodden well together, and put into a bag so hot as may be; which bag would be so close fastened to his head, that all the favour thereof may ascend up into his nostrils, and his head also would be covered and kept warm: and to provoke him to neeze, he would have you to binde a soft clout anointed with Sope; or else with Butter and Oyl-de-bay unto a stick, and to thrust that up and down into his nostrils, so high as you may conveniently go, and let him be kept warm, and drink no cold water. Yea, it shall be good for three or four days, to boil in his water a little Fenigreek, Wheat meal, and a few Anise-seeds. And every day after that you have purged his head by perfuming him, or by making him to neeze, cause him to be trotted up and down, either in the warm Sun, or else in the house half an hour, which would be done before you water him, and give him his provender.

Of the Cold in the Head.

Markham. **T**He pose or cold in a Horse, is the most general disease that hapneth, and is the easiest perceived, both by stopping, ratling in the nose, and coughing, the cure thereof is in this sort: If it be but newly taken by some careless regard, and immediately perceived, you shall need no other remedy, but to keep him warm every morning and evening after his water, to ride him forth, and to trot him up and down very fast till his cold break, and then gently to gallop him a little, which moderate exercise with warm keeping will quickly recover him again; but if the cold hath had long residence in him, and still encreaseth, then you shall give him this drink three days together: Take of strong Ale one quart, of the best Treacle six penny-worth, of long Pepper and grains, of each as much beaten to powder, of the juyce of Garleek two spoonfuls, boyl all these together, and give it the Horse to drink; so warm as he may suffer it, and then trot him up and down by the space of an hour or more, and keep him warm, giving him to drink no cold water.

Of the diseases of the Eyes.

Blundevile. **H**orses eyes be subject to divers griefs, as to be waterish or bloud-shotten, to be dim of sight, to have the Pin and Web, and the Haw, whereof some comes of inward causes, as of humors resorting to the eyes, and some of outward, as of cold, heat, or stripe.

Of Weeping or Watering Eyes.

THis, as *Laurentius Russius* saith, may come sometime by confluence of humors, and sometime by some stripe, whose cure I leave to recite, because it doth not differ from *Martins* experience here following: Take of Pitch, Rosen and Mastick, a like quantity, melt them together. Then with a little stick, having a clout bound to the end thereof, and dipt therein, anoint the temple veins on both sides, a handful above the eyes, as broad as a Testern, and then clap unto it immediately a few flocks of like colour to the Horse, holding them close to his head with your hand, untill they stick fast unto his head, then let him bloud on both sides, (if both sides be infected) a handful under the eyes. *Russius* also thinketh it good to wash his eyes once a day with pure pure white wine, and then to blow therein a little of *Tartarum*, and of Pumice stone, beaten into fine powder.

Of Watering Eyes.

Markham. **W**atering eyes come most commonly in some stripe or blow, and the cure is thus: Lay unto his temples a plaister of Turpentine and Pitch molten together, then wash his eyes with white Wine, and afterward blow the powder of burnt Allum into the same.

Of Bloud-shotten Eyes, also for a blow or itching, and rubbing in the Eyes.

Blundevile. **M***artin* never used any other medicine, then this water here following, wherewith he did always heal the foresaid griefs: Take of pure Rose water, of Malmie, of Fennel water, of each three spoonfuls, of Tutia as much as you can easily take with your thumb and finger, of Cloves a dozen beaten into fine powder; mingle them together, and being luke-warm, or cold if you will, wash the inward part of the eye with a feather dipt therein, twice a day untill he be whole. *Russius* saith, that to bloud-shotten eyes it is good to lay the white of an Egge, or to wash them with the juyce of Celidony.

Another

*Another of Bloud-shotten Eyes, or any other sore Eye, coming
of rheume or other humor.*

FOr any sore eye make this water : Take of the water of Eye-bright, of Rose water, and Malm-
sey, of each three spoonfuls, of Cloves six or seven beaten to fine powder, of the juyce of
Houfeleek two spoonfuls; mix all these together, and wash the Horses eyes therewith once a day, and
it will recover him. Markham.

*Of dimness of sight, and also for the Pin and Web, or any other
spot in the Eye.*

IF the Horse be dim of sight, or hath any Pearl growing in his eye, or thin film covering the ball
of his eye, then *Russius* would have you take of Pumice stone, of *Tartarum*, and of *sal Gemme*, of
each like weight, and being beaten into very fine powder, to blow a little of that in his eye, conti-
nuing so to do every day once or twice, untill he be whole. *Martin* saith, that he always used to
blow a little Sandivour into the eye once a day, which simple he affirmeth to be of such force, as it will
break any Pearl or Web in short space, and make the eye very clear and fair. *Russius* amongst a num-
ber of other medicines, praiseth most of all the powder of a black flint stone. Blundevile.

Of the Pin and Web, and other dimness.

FOr to cure the Pin, Web, Pearl, Film, or other dimness, use this means following : Take of San-
divoir, the powder of burnt Allum, and the powder of black Flint-stone, of each like quantity :
and once a day blow a little thereof into the Horses eye, and it will wear away such imperfect
matter, and make the eye clear. Markham.

Of the Haw, called of the Italians, Il unghia degli occhi.

THis is a gristle covering sometime more then one half of the eye. It proceedeth of gross and
tough humors, descending out of the head; which Haw, as *Martin* saith, would be cut away
in this sort : First, pull both the eye-lids open with two several threds, stitched with a needle to ei-
ther of the lids. Then catch hold of the Haw with another needle and thred, and pull it out so far
as you may cut it round the bredth of a penny, and leave the black behinde. For by cutting away
too much of the fat and black of the eye, the Horse many times becometh blear-eyed. And the Haw
being clean taken away, squirt a little white Wine or Beer into his eye. Blundevile.

Another of the Haw.

AHaw is a gross gristle growing under the eye of a Horse, and covering more then one half of his
sight; which if he be suffered will in short time perish the eye : the cure is thus : Lay your
thumb under his eye, in the very hollow, then with your finger pull down the lid, and with a sharp
needle and thred take hold of the Haw, and plucking it out, with a sharp knife, cut it away the com-
pass of a penny, or more, that done, wash the eye with a little Beer. Markham.

Of Lunatick Eyes.

V*Egetius* writeth *De oculo Lunatico*, but he sheweth neither cause nor signes thereof, but only saith
that the old men tearmed it so, because it maketh the eye sometime to look as though it were
covered with white, and sometime clear. Blundevile.

Martin saith, that the Horse that hath this disease, is blinde at certain times of the Moon, insomuch
that he seeth almost nothing at all during that time, and then his eyes will look yellowish : yea, and
somewhat reddish, which disease according to *Martin*, is to be cured in this sort : First, use the plai-
ster mentioned before in the chapter of Waterish or Weeping eyes, in such order as is there pre-
scribed; and then with a sharp knife make two flits on both sides of his head an inch long, somewhat
to wards the nose, a handfull beneath the eyes, not touching the vein : and with a corner loosen the
skin upward the breadth of a groat, and thrust therein a round peece of leather, as broad as a two
penny peece, with a hole in the midst to keep the hole open, and look to it once a day, that the
matter may not be stopped, but continually run the space of ten days, then take the leather out,
and heal the wound with a little flax dipt in the salve here following : Take of Turpentine, of Honey,
of Wax, of each like quantity, and boyl them together, which being a little warmed, will be liquid
to serve your purpose, and take not away the plaisters from the temples untill they fall away of them-
selves, which being fallen, then with a small hot drawing Iron, make a star in the midst of each tem-
ple-vein where the plaister did ly. Which star would have a hole in the midst made with the button
end of your drawing Iron.

Another of Lunatick or Moon-eyes.

Markham.

OF these Lunatick eyes, I have known divers: they are blinde at certain times of the Moon, they are very red, fiery, and full of film: they come with over-riding, and extraordinary heat and fury, the cure of them is thus: Lay upon the Temples of his head a plaister of Pitch, Rozen, and Mastick molten together very exceeding hot: then with a little round Iron made for the purpose, burn three or four holes an inch or more underneath his eyes, and anoint those holes every day with Hogs greafe, then put it in his eyes every day with a little Honey, and in short time he will recover his sight.

Of the Canker in the Eye.

Blundevile.

THIS cometh of a ranck and corrupt blood descending from the head into the eye. The signes. You shall see red pimples, some small, and some great, both within and without upon the eye-lids, and all the eye will look red, and be full of corrupt matter. The cure according to *Martin* is thus: First, let him blood on that side the neck, that the eye is grieved, the quantity of a pottle. Then take of Roch Allum, of green Copperas, of each half a pound, of white Copperas one ounce, and boil them in three pintes of running water, untill the half be consumed, then take it from the fire, and once a day wash his eye with this water being made luke-warm with a fine linnen cloth, and cleanse the eye therewith so oft as it may look raw, continuing thus to do every day untill it be whole.

Of diseases incident to the Ears, and Poll of the head, and first of an Impostume in the Ear.

IMPOSTUMES breed either by reason of some blow or bruising, or else of evill humors congealed in the ear by some extream cold; the signes be apparent, by the burning and painful swelling of the ear and part thereabout. The cure according to *Martin* is in this sort. First, ripe the Impostume with this plaister. Take of Linseed beaten into powder, of Wheat flowre, of each half a pinte, of Honey a pinte, of Hogs greafe, or Barrows greafe one pound. Warm all these things together in an earthen pot, and stir them continually with a flat stick or slice, untill they be thoroughly mingled and incorporated together, and then spread some of this plaister, being warm, upon a peece of linnen cloth, or soft white leather, so broad as the swelling, and no more, and lay it warm unto it, and so let it remain one whole day, and then renew it with fresh Ointment, continuing so to do untill it break; then lance the sore, so that it may have passage downward, and tent it to the bottom with a tent of flax dipt in this Ointment: Take of *Mel Rosatum*, of Oyl Olive and Turpentine, of each two ounces, and mingle them together, and make him a biggen of Canvas to close in the sore, so as the tent with the Ointment may abide within, renewing the tent once a day untill it be whole. But if the Horse have pain in his ears, without any great swelling or Impostumation, then thrust in a little black Wooll dipt in Oyl of Camomile, and that will heal it.

Of the Poll evill.

THIS is a disease like a Fistula growing betwixt the ears and the poll or nape of the neck, and proceedeth of evill humors gathered together in that place, or else of some blow or bruise, for that is the weakest and tenderest part of all the head, and therefore soonest offended, which rude Carters do little consider, whilest in their fury they beat their Horses upon that place of the head with their whip-stocks; and therefore no Horse is more subject to this disease then the Cart-horse; and this disease cometh most in Winter season. The signes. You shall perceive it by the swelling of the place, which by continuance of time will break it self, rotting more inward then outward, and therefore is more perillous if it be not cured in time; and the sooner it be taken in hand, the better. The cure according to *Martin* is thus; If it be not broken, ripe it with a plaister of Hogs greafe laid unto it so hot as may be; and make a biggen for the Poll of his head to keep it from cold; which biggen would have two holes open, so as his ears may stand out; and renew the plaister every day once, untill it break, keeping the sore place as warm as may be.

And if you see that it will not break so soon as you would have it, then there as it is softest and most meetest to be opened; take a round hot Iron, as big as your little finger, and sharp at the point, and two inches beneath that soft place, thrust it in a good deepness upward, so as the point of the Iron may come out at the ripest place, to the intent that the matter may descend downward, and come at the neather hole, which would be always kept open; and therefore tent it with a tent of flax dipt in Hogs greafe, and lay a plaister of Hogs greafe also upon the same, renewing it every day once the space of four days, which is done chiefly to kill the heat of the fire.

Then at the four days end, take of Turpentine half a pound, clean washed in nine sundry waters, and after that thoroughly dried, by thrusting out the water with a slice on the dishes side, then put thereunto two yolks of Egges, and a little Saffron, and mingle them well together: that

that done, search the depth of the hole with a whole quill, and make a tent of a piece of sponge, so long as it may reach the bottom, and so big as it may fill the wound, and anoint the tent with the aforesaid Ointment, and thrust it into the wound, either with that quill, or else by winding it up with your finger and thumb, by little and little, untill you have thrust it home: and lay on the plaister of Hogs greafe made luke-warm, renewing it every day once or twice, untill it be whole. But if the swelling cease, then you need not to use the plaister, but only to tent it, and as the matter decreaseth, so make your tent every day lesser and lesser, untill the wound be perfectly whole.

Of the Vives.

THe Vives be certain kernels growing under the Horses ear, proceeding of some rank or corrupt bloud resorting to the place, which within are full of little white grains, like white salt kernels. The *Italians* call them *Vivole*, which if they be suffered to grow, *Laurentius Russius* saith, that they will grievously pain the Horse in his throat, so as he shall not be able to swallow his meat, nor to breath. They be easie to know, for they may be felt, and also seen: The cure according unto *Martin*, is in this sort: First draw them down in the midst with a hot iron, from the root of the ear so far as the tip of the ear will reach, being puld down: and under the root again draw two strikes on each side like a broad arrow head; then in the midst of the first line lance them with a lancet, and taking hold of the kernels with a pair of pinsons, pull them so far forward, as you may cut the kernels out without hurting the vein: that done, fill the hole with white Salt. But *Hierocles* would have them to be cured in this sort: Take a piece of Sponge sowed well in strong Vinegar, and binde that to the sore, renewing it twice a day untill it hath rotted the kernels; that done, lance the neathermost part where the matter lyeth, and let it out, and then fill it up with Salt finely brayed, and the next day wash all the filth away with warm water, and anoint the place with Honey and Fitch-flowre mingled together. But beware you touch none of the kernels with your bare finger, for fear of venoming the place, which is very apt for a Fistula to breed in.

Blundevile.

Another of the Vives.

THe Vives be certain kernels, growing under the Horses ear, which come of corrupt bloud, the cure is diversly spoke and written of; but this is the best mean which I have tryed, that if you finde the kernels to enflame and grieve the Horse, take a handful of Sorrel, and lay it in a Bur-dock leaf, and rost it in the hot embers like a Warden; then being taken out of the fire, apply it so hot as may be to the fore part, suffering it to ly thereunto the space of a day and a night, and then renew it, till such time that it ripen and break the sore, which it will in short space do. When it is broken, and the vilde matter taken away, you shall heal up the sore place with the yolk of an Egge, half a spoonful of Honey, and as much Wheat-flowre as will serve to make it thick, plaister-wise, which being bound thereunto, will in three or four days heal the same.

Markham.

Of the Cankerous Ulcer in the Nose.

THis disease is a fretting humor, eating and consuming the flesh, and making it all raw within, and not being holpen in time will eat through the gristle of the nose. It cometh of corrupt bloud, or else of sharp humors ingendered by means of some extream cold. The signes be these: He will bleed at the nose, and all the flesh within will be raw, and filthy stinking favours, and matter will come out at the nose. The cure according to *Martin* is thus: Take of green Copperas, of Allum, of each one pound, of white Copperas one quartern, and boil these in a pottle of running water, untill a pinte be consumed, then take it off, and put thereunto half a pinte of Honey: then cause his head to be holden up with a drinking staffe, and squirt into his nostrils with a squirt of brasse, or rather of Elder, some of this water being luke-warm, three or four times one after another, but betwixt every squirting, give him liberty to hold down his head, and to blow out the filthy matter, for otherwise perhaps you may choke him. And after this it shall be good also without holding up his head any more, to wash and rub his nostrils with a fine clowt bound to a white sticks end, and wet in the water aforesaid; and serve him thus once a day untill he be whole.

Blundevile.

Of bleeding at the Nose.

IHave seen Horses my self, that have bled at the nose, which have had neither sore nor ulcer in their nose, and therefore I cannot choose, but say with the Physicians, that it cometh by means that the vein which endeth in that place, is either opened, broken or fettered. It is opened many times by means that bloud aboundeth too much, or for that it is too fine, or too subtil and so pierceth through the vein. Again, it may be broken by some violent strain, cut or blow. And finally, it may be fretted or gnawn through, by the sharpness of some bloud, or else of some other humor contained therein. As touching the cure, *Martin* saith, it is good to take a pinte of red Wine, and to put therein a quartern of Bole Armony, beaten into fine powder, and being made luke-warm, to pour the one half thereof the first day into his nostril that bleedeth, causing his head to be holden up, so as the liquor may not fall out, and the next day to give him the other half. But if this prevaleth not,

then I for my part would cause him to be let blood in the breast vein, on the same side that he bleedeth at several times: then take of Frankincense one ounce, of Aloes half an ounce, and beat them into powder, and mingle them thoroughly with the whites of Egges, untill it be so thick as Honey, and with soft Hares hair, thrust it up into his nostril, filling the hole so full, as it cannot fall out; or else fill his nostrils full of Asses dung, or Hogs dung, for either of them is excellent good to restrain any flux of blood.

Of the bleeding at the Nose, or to stanch Flux of blood in any sort.

Markham.

I Have known many Horses in great danger by bleeding, and I have tryed divers remedies for the same, yet have I not found any more certain then this: take a spoonful or two of his blood, and put it in a Sawcer, and set it upon a chafing dish of coals, and let it boyl till it be all dryed up into powder, then take that powder, and if he bleed at the nose, with a Cane or Quill blow the same up into his nostrils: if his bleeding come of any wound or other accident, then into the wound put the same powder, which is a present remedy. New Horse-dung, or earth, is a present remedy, applyed to the bleeding place; and so are Sage leaves bruised and put into the wound.

Of the diseases in the Mouth, and first of the bloody Rists, or Chops in the Palat of the Mouth.

Blundevile.

This disease is called of the Italians, *Palatina*; which as *Laurentius Russus* saith, cometh by eating hay or provender that is full of pricking seeds, which by continual pricking and fretting the furrows of the mouth do cause them to ranckle, and to bleed corrupt and stinking matter, which you shall quickly remedy, as *Martin* saith, by washing first the sore places with Vinegar and Salt, and then by anointing the same with Honey.

Of the Bladders in a Horses mouth, which our old Farriers were wont to call the Gigs. The Italians call them Froncelle.

These be little soft swellings, or rather pustules with black heads, growing in the inside of his lips, next unto the great jaw-teeth, which are so painful unto the Horse, as they make him to let his meat fall out of his mouth; or at the least to keep it in his mouth unchewed, whereby the Horse prospereth not: *Russus* saith, that they come either by eating too much cold grass, or else pricking, dusty, and filthy provender. The cure whereof, according to *Martin*, is in this sort: Slit them with a lancet, and thrust out all the corruption, and then wash the sore places with a little Vinegar and Salt; or else with Allum water.

Of the Bladders in a Horses mouth.

Markham.

Some Horses will have bladders like paps growing in the inside of their lips, next to their great teeth, which are much painful: the cure whereof is thus: Take a sharp pair of shears, and clip them away close to the gum, and then wash the sore place with running water, Allum and Honey boiled together, till it be whole.

Of the Lampas.

The Lampas, called of the Italians, *Lampascus*, proceedeth of the abundance of blood, resorting to the first furrow of the mouth, I mean that which is next unto the upper fore-teeth, causing the said furrow to swell so high as the Horses teeth, so as he cannot chew his meat, but is forced to let it fall out of his mouth. The remedy is to cut all the superfluous flesh away, with a crooked hot iron made of purpose, which every Smith can do.

Another of the Lampas.

Markham.

The Lampas is a thick spongy flesh, growing over a Horses upper teeth, hindering the conjunction of his chaps, in such sort that he can hardly eat: the cure is as followeth. Cut all that naughty flesh away with a hot iron, and then rub the sore well with Salt, which the most ignorant Smith can do sufficiently.

Of the Canker in the mouth.

Blundevile.

This disease, as *Martin* saith, is a rawness of the mouth and tongue, which is full of blisters, so as he cannot eat his meat. Which proceeds of some unnatural heat, coming from the stomach. For the cure whereof, take of Allum half a pound, of Honey a quarter of a pinte, of Columbine leaves, of Sage leaves, of each a handful; boyl all these together in three pintes of water, untill a pinte be consumed, and wash the sore places therewith so as it may bleed, continuing so to do every day once untill it be whole.

Another

Another of the Canker in the mouth.

THis disease proceedeth of divers causes, as of unnatural heat of the stomach, of foul feeding, *Markham.* or of the rust or venome of some bit or snaffle, undiscreeitly lookt unto. The cure is thus; Wash the fore place with warm Vinegar, made thick with the powder of Allum, two or three dayes together, every time until it bleed, which will kill the poison and vigor of the exulcerated matter: then make this water; Take of running water a quart, of Allum four ounces, of Hony four or five spoonfuls, of Woodbine leaves, of Sage leaves, and of Columbine leaves, of each half a handful, boil all these together till one half be consumed, then take it off, and every day with the water warmed, wash the fore until it be whole.

Of the heat in the mouth and lips.

Sometime the heat that cometh out of the stomach breedeth no Canker, but maketh the mouth *Blundevile.* shot, and causeth the Horse to forsake his meat. The cure whereof, as *Martin* saith, is in this sort: First, turn up his upper lip, and jagge it lightly with a launcer, so as it may bleed, and then wash both that and all his mouth and tongue with Vinegar and Salt.

Of the tongue being hurt with the bit or otherwise.

If the tongue be cut or hurt any manner of way, *Martin* saith, it is good first to wash it with Allum water, and then to take the leaves of black Bramble, and to chop them together small with a little Lard, that done, to binde it up in a little clout, making it round like a ball, then having dipt the round end in Hony, rub the tongue therewith: continuing so to do once a day until it be whole.

Of the Barbles or paps underneath the tongue.

These be two little paps, called of the *Italians*, Barbole, growing naturally (as I think) in every Horses mouth underneath the tongue, in the neather jawes, which if they shoot of any length, *Russus* saith, that they will hinder the Horses feeding, and therefore he and *Martin* also would have them to be clipt away with a pair of sheers, and that done, the Horses mouth to be washed with Vinegar and Salt.

Of the pain in the teeth and gums, of the Wolfs teeth, and Jaw teeth.

A Horse may have pain in his teeth, partly by descent of humors from his head, down into his teeth and gums, which is to be perceived by the rankness and swelling of the gums, and partly having two extraordinary teeth, called the Wolfs teeth, which be two little teeth growing in the upper jawes, next unto the great grinding teeth, which are so painful to the Horse, as he cannot endure to chew his meat, but is forced either to let it fall out of his mouth, or else to keep it still half chewed; whereby the Horse prospereth not, but waxeth lean and poor, and he will do the like also when his upper Jaw-teeth be so far grown as they overhang the neather Jaw-teeth, and therewith be so sharp, as in moving his jawes they cut and rase the insides of his cheeks, even as they were rased with a knife. And first as touching the cure of the pain in the teeth, that cometh by means of some distillation: *Vegetius* saith, it is good to rub all the outside of his gums with fine chalk and strong Vinegar mingled together, or else after that you have washed the gums with Vinegar, to strew on them of Pomegranate pites. But me thinks that besides this, it were not amisse to stop the temple veins, with the plaister before mentoned, in the Chapter of weeping and waterish eyes. The cure of the Wolfs teeth, and of the Jaw-teeth, according to *Martin*, is in this sort. First cause the Horse head to be tyed up to some rafter or post, and his mouth to be opened with a cord, so wide as you may easily see every part thereof; Then take a round strong iron toole, half a yard long, and made at the one end in all points like unto the Carpenters gouge, wherewith he maketh his holes to be bored with a wimble or auger, and with your left hand set the edge of your tool at the foot of the Wolfs teeth, on the outside of the jaw, turning the hollow side of the tool downward, holding your hand steadily, so as the tool may not slip from the aforesaid tooth: then having a mallet in your right hand, strike upon the head of the tool one pretty blow, and therewith you shall loosen the tooth, and cause it to bend inward: then staying the midst of your tool upon the Horses neather jaw, wrinch the tooth outward, with the inside or hollow side of the tool, and thrust it clean out of his head: that done, serve the other Wolfs tooth on the other side in like manner, and fill up the empty places with Salt finely brayed. But if the upper jaw teeth do also overhang the neather teeth, and so cut the inside of his mouth as is aforesaid, then keeping his mouth still open, take your tool and mallet, and pare all those teeth shorter, running along them even from the first unto the last, turning the hollow side of your tool towards the teeth, so shall not the tool cut the inside of his cheeks, and the back or round side being turned towards the foresaid cheeks, and that done wash all his mouth with Vinegar and Salt, and let him go.

Why the diseases in the neck, withers, and back, be declared here before the diseases in the throat.

HAVING hitherto spoken of the diseases incident to a Horses head, and to all the parts thereof, natural order requireth that we should now descend into the throat, as a part next adjacent to the mouth. But forasmuch as the diseases in the throat have not only affinity with the head, but also with the lungs and other inward parts, which are many times grieved by means of distillation coming from the head, and through the throat: I will speak of the diseases incident to the neck, withers, and back of a Horse, to the intent that when I come to talk of such diseases, as Rheumes and distillations do cause, I may discourse of them orderly without interruption.

Of the Crick in the neck.

BECAUSE a Crick is no other thing then a kinde of Convulsion, and for that we have spoken sufficiently before of all kindes thereof in the Chapter of Convulsion, I purpose not here therefore to trouble you with many words, but only shew you *Russius* opinion, and also *Martins* experience therein. The Crick then called of the *Italians*, *Scima*, or *Lucerdo* according to *Russius*, and according to *Martin* is, when the Horse cannot turn his neck any manner of way, but hold it still right forth, insomuch as he cannot take his meat from the ground but by times, and that very slowly; *Russius* saith, it cometh by means of some great weight laid on the Horses shoulders, or else by overmuch drying up of the sinews of the neck. The cure whereof, according to *Martin*, is in this sort. Draw him with a hot iron from the root of the ear on both sides of the neck, through the midst of the same even down to the breast, a straw deep, so as both ends may meet upon the breast, then make a hole in his forehead, hard under the foretop, and thrust in a Cornet upward betwixt the skin and the flesh a handfull deep, then put in a Goose feather, doubled in the midst and anointed with Hogs grease to keep the hole open, to the intent the matter may run out the space of ten dayes. But every day during that time, the hole must be cleansed once, and the feather also cleansed and fresh anointed, and so put in again. And once a day let him stand upon the bit one hour or two, or be ridden two or three miles abroad, by such a one as will bear his head, and make him to bring it in. But if the Crick be such as the Horse cannot hold his neck straight, but clean awry, as I have seen divers my self: then I think it not good that the Horse be drawn with a hot iron on both sides of the neck, but only on the contrary side. As for example, if he bend his head toward the right side, then to draw him as is aforesaid only on the left side, and to use the rest of the cure as is abovesaid, and if need be, you may splent him also with handsome staves meet for the purpose to make his neck stand right.

Of Wens in the neck.

AWEN is a certain kinnell like a tumor of swelling, the inside whereof is hard like a gristle, and spongy like a skin full of wrets. Of Wens, some be great, and some be small. Again, some be very painful, and some not painful at all. The Physicians say, that they proceed of grosse and vicious humors; but *Vegetius* saith, that they chance to a Horse by taking cold, or by drinking of waters that be extreme cold. The cure according to *Martin* is thus, Take of Mallowses, Sage, and red Nettles, of each one handfull, boil them in running water, and put thereunto a little Butter and Honey, and when the Herbs be soft, take them out and all to bruise them, and put thereunto of oil of Bay two ounces, and two ounces of Hogs grease, and warm them together over the fire, mingling them well together; that done, plaister it upon a piece of leather so big as the Wen, and lay it to so hot as the Horse may endure it, renewing it every day in such sort, the space of eight days, and if you perceive that it will come to no head, then lance it from the midst of the Wen downward, so deep as the matter in the bottom may be discovered and let out; that done, heal it up with this Salve, Take of Turpentine a quarter, and wash it nine times in fair new water, then put thereunto the yolk of an Egge and a little *English* Saffron beaten into powder, and make a tent or rowle of Flax, and dip it in that ointment, and lay it unto the sore, renewing the same every day once untill it be whole.

Of swelling in the neck after blood-letting.

THIS may come of the fleam being rusty, and so causing the vein to rankle, or else by means of some cold wind striking suddainly into the hole. The cure according to *Martin* is thus; First anoint it with oil of Camomile warmed, and then lay upon it a little hay wet in cold water, and bind it about with a cloth, renewing it every day the space of five dayes, to see whether it will grow to a head, or else vanish away. If it grow to a head, then give it a slit with a lancet, and open it with a Cornet that the matter may come out. Then heal it up, by tenting it with Flax dipt in Turpentine and Hogs grease molten together, dressing it so once a day untill it be whole.

How to staunch blood.

IF a Horse be let blood when the signe is in the neck, the vein perhaps will not leave bleeding so soon as a man would have it, which if any such thing chance, then *Ruffus* saith, it is good to binde thereunto a litle new Horse dung tempered with chalke and strong Vinegar, and not to remove it from thence the space of three dayes, or else to lay thereunto burnt silk, felt, or cloth, for all such things will staunch blood.

Of the falling of the Crest.

THis cometh for the most part of poverty, and specially when a fat Horse falleth away suddainly. The cure according to *Martin* is thus; Draw his Crest the deepness a straw, on the contrary side with a hot iron, the edge of which iron, would be half an inch broad, and make your beginning and ending somewhat beyond the fall, so as the first draught may go all the way hard upon the edge of the mane, even underneath the roots of the same, bearing your hand right downward, into the neckward, then answer that with another draught beneath, and so far distant from the first as the fall is broad, compassing as it were all the fall, but still on the contrary side: and betwixt those two draughts right in the midst, draw a third draught, then with a button iron of an inch about, burn at each end a hole, and also in the spaces betwixt the draughts, make divers holes distant three fingers broad one from another: that done, to flake the fire anoint it every day once, for the space of nine dayes, with a feather dipt in fresh Butter moulten. Then take Mallows and Sage, of each one a handful, boil them well in running water, and wash the burning away untill it be raw flesh then dry it up with this powder; Take of Hony half a pinte, and so much unfleck't lime as will make that Hony thick like paste; then hold it in a fire-pan over the fire untill it be baked so hard as it may be made in powder, and sprinkle that upon the sore places.

Of the falling of the Crest.

THe falling of the Crest is occasioned most commonly through poverty; yet sometimes I have seen it chance thorough the ill proportion of the Crest, which being high, thick and heavy, the neck thin and weak underneath, is not able to support or sustain it up, however it be, there is remedy for both: if it proceed of poverty, first try by good keeping to get it up again, but if it will not rise, or that the original of the disease be in the ill fashion of the Crest, then let this be the cure, First with your hand raise up the Crest as you would have it stand, or rather more to that side from which it declineth, then take up the skin between your fingers on that side from which the Crest swarveth, and with a sharp knife cut away the breadth of very near an inch, and the length of four inches; which done, stitch up the skin together again with three or four stitches, and by means of strings, weights, or other devises, keep the Crest perforce on that side, applying thereunto a plaister of Deers sewer and Turpentine, boiled together, till the sore be healed; and at the self same instant that by this manner of infision you draw together and straiten the skin on that side, you shall in this sort give liberty to the other side, whereby the Crest may the easier attain to his place; Take a hot iron made in fashion of a knife, the edge being a quarter of an inch broad, and therewith from the upper part of his Crest unto the neather part of the same extending towards his shoulder, draw three lines in this forme || and the same anoint dayly with fresh Butter, untill such time as it be perfectly whole. By this manner of cure, you may make any lave-ear'd Horse, to be as prick-ear'd and comely, as any other Horse whatsoever.

Of the manginess of the Mane.

THe manginess proceedeth of rankness of blood, or of poverty, of lowliness, or else of rubbing where a mangy Horse hath rubbed, or of filthy dust lying in the mane for lack of good dressing. The signes be apparent by the itching and rubbing of the Horse, and the Scabs, fretting both flesh and skin. The cure, according to *Martin*, is thus; Take of fresh grease one pound, of Quicksilver half an ounce, of Brimstone one ounce, of Rape oil half a pinte, mingle them together, and stir them continually in a pot with a slice, untill the Quicksilver be so wrought with the rest, as you shall perceive no Quicksilver therein. That done, take a blunt knife, or an old Horse-comb, and scratch all the mangy places therewith untill it be raw and bloody, and then anoint it with this ointment, in the sunshine if it may be, to the intent the ointment may sink in: or else hold before it in a fire-pan or some broad bar of iron made hot, to make the ointment to melt into the flesh. And if you see that within the space of three dayes after, with this once anointing, he leave not rubbing, then marke in what place he rubbeth, and dresse that place again, and you shall see it heal quickly.

Of the falling of the hair of the Mane.

IT falleth for the most part, because it is eaten with little Wormes, fretting the roots in sunder; which, according to *Martin*, you shall remedy in this sort; Anoint the mane and Crest with Sope, then make strong lie and wash all the mane and Crest withall, and that will kill the Wormes, within twice or thrice washing.

Of griefs in the withers.

TO a Horses withers and back, do chance many griefs and sorances, which, as *Russus* saith, do sometime proceed of inward causes, as of the corruption of humors; and sometime of outward causes, as through the galling and pinching of some naughty saddle, or by some heavy burthen laid on the Horses back, or such like. And of such griefs, some be but superficial blisters, swellings, light-galls or bruifings, and be easily cured. Some again do pierce to the very bone, and be dangerous, and especially if they be nigh the back bone; let us first then shew you the cure of the smaller griefs, and then of the greater.

Another of blisterings, or small swellings in the withers or back and gallings.

Blundevile.

Whensoever you see any swelling rise, then *Martin* would have you to binde a little hot Horse dung unto it, and that will assuage it. If not, then to prick it round about the swelling, either with a fleam, or else with a sharp pointed knife not too deep, but so as it may pierce the skin, and make the blood to issue forth. That done, take of Mallows or else of Smalage, two or three handfuls, and boil them in running water untill they be so soft as pap; then strain the water from it, and bruise the herbs in a trean dish, putting thereunto a little Hogs greafe, or else Sallet oil, or Sheeps sewer, or any other fresh greafe, boil them and stir them together, not frying them hard, but so as it may be soft and supple, and then with a clout lay it warm upon the sore, renewing it every day once untill the swelling be gone. For this will either drive it away, or else bring it into his head, which lightly chanceth not, unlesse there be some gristle or bone perished.

Russus biddeth you, so soon as you see any swelling rise, to shave the place with a rasor, & lay thereunto this plaister; Take a little Wheat flower and the white of an Egge beaten together, and spread it on a little clout, which being laid unto the swelling two or three dayes and not removed, will bring it to a head, and when you come to take it off, pull it away so softly as you can possible, and whereas you see the corruption gathered together, then in the lowest place thereof, pierce it upward with a sharp iron somewhat hot, that the corruption may come out, and anoint the sore place every day once with fresh Butter, or Hogs greafe; but if the skin be only chafed off without any swelling, then wash the place with Water and Salt, or else with warm Wine, and sprinkle this powder thereon; Take of unsleckt Lime beaten into fine powder, and mingle it with Hony untill it be as thick as any paste, and make rols or bals theof, and bake them in a fire-pan over the fire, untill they be so hard as they may be brought to powder, for this is a very good powder to dry up any galling or sore. The powder of Myrrhe or burnt silk, felt, or cloth, or any old post, is also good for such purposes; but whensoever you use this powder of Lime and Hony, let the place be washed, as is aforesaid.

Of great swellings and inflammations in a Horses withers.

IF the swelling be very great, then the cure according to *Martin* is thus; First draw round about the swelling with a hot iron, and then crosse him with the same iron in manner of a checker, then take a round hot iron having a sharp point, and thrust it into the swelling place on each side up toward the point of the withers; to the intent the matter may issue downward at the holes. That done, tent both the holes with a tent dipt in Hogs greafe to kill the fire, and also anoint all the other burnt places therewith, continuing so to do untill the swelling be asswaged, renewing it every day once, untill the fiery matter be clean fallen away, and then tent him again with washed Turpentine mingled with yolks of Egges and Saffron in such manner as hath been aforesaid, renewing the tent every day once untill it be whole.

If you see that the swelling for all this go not away, then it is a signe of some impostumation within, and therefore it shall be necessary to lance it, and to let out the corruption; then take of Hony half a pinte, of Verdigrease two ounces beaten to powder, and mingle it together with the Hony, then boil them in a pot untill it look red, then being lukewarm, make either a tent or plaister, according as the wound shall require, renewing the same every day once, untill it be whole. But the sore may be so vehement, that for lack of looking in time, it will pierce downward betwixt both shoulders toward the intrails, which is very dangerous: yea, and as *Russus* saith, mortal, because the corruption of the sore infecting the lungs and heart (which be the vitall parts and chief preservers of life) the body must needs decay. And therefore *Martin* would have you to fill the hole with the Salve last mentioned, and to thrust in afterward a piece of a

sponge,

spunge, as well to keep the hole open, as also to suck out the corruption, renewing it every day once untill it be whole.

Of the horns or hard knobs growing under the Saddle side.

This is a dead skin like a piece of leather, called of the *Italians*, *Corno*, that is to say, a horn, *Blundevile*. for that it is hard under hand, and cometh by means of some strait Saddle, pinching the Horse more on the one side then on the other; or else on both sides equally. The cure whereof according to *Martin*, is in this sort; Anoint them with fresh Butter or Hogs grease, untill they be mollified and made so soft as you may either cut them, or pull them away, and then wash the wound with mans stale, or with white Wine, and dry it with powder of unsleck't Lime mixt with Hony.

Of Wens or knobs growing about the Saddle skirts.

These be great hard knobs growing most commonly betwixt two ribs, apparent to the eye, which by their hardness seem to come of some old bruise, and are called of the *Italians*, *le Cui*. The cure whereof, according to *Martin*, is thus; First mollifie them, by anointing them with Hogs grease every day once or twice, the space of eight dayes, and if you perceive that it will come to no head with this, then lance it from the middle downward, that the matter may come out: then tent it with washed Turpentine, yolks of Egges, and Saffron mingled together as is aforesaid, renewing the tent every day once until it be whole.

Of the Navill gall.

The Navil gall, is a bruise on the back behinde the Saddle right against the Navil of the Horse, and thereof taketh his name. It cometh either by splitting of the Saddle behinde, or for lack of stuffing, or by means of the hinder buckle fretting that place, or else by some great weight laid on his back: you shall perceive it by the puffed up and spungy flesh, looking like rotten Lights or Lungs, and therefore is called of the *Italians*, *Pulmon*, or *Pulmonelle*. The cure whereof, according to *Martin*, is thus; Cut it round about with a sharp knife or rasor even to the bone, leaving no rotten flesh behinde: that done, take the white of an Egge and Salt beaten together, and lay that plaisterwise to the sore upon a little towe, renewing it once a day the space of two dayes. Then take of Hony a quartern of a pinte, and of Verdigrease an ounce beat into powder, and boile them together in a pot, stirring it still untill it look red, and being lukewarm, make a plaister with towe and clap it to the wound, washing and cleansing well the wound first with a little warm Vinegar or white Wine, continuing it once a day untill it begin to heal and skin, then dry it up, by sprinkling thereon this powder following; Take of Hony a quartern, and as much of unsleck't Lime as will thicken the Hony like unto paste, and in a fire pan over the fire, stir it still until it be hard baked, so as it may be beaten into powder, but before you throw on the powder, wash the wound first with warm Vinegar, continuing so to do untill it be perfectly skinned and whole.

Of the swaying of the back.

This is called of the *Italians*, *Malferuto*, and according to *Russus* and *Martins* opinions, cometh *Blundevile*. either by some great strain, or else by heavy burthens: you shall perceive it by the reeling and rolling of the Horses hinder parts in his going, which will falter many times, and sway sometimes backward, and sometime sideling, and be ready to fall even to the ground, and the Horse being laid, is scant able to get up. The cure, according to *Martin*, is thus; Cover his back with a Sheeps skin, coming hot from the Sheeps back, laying the fleshie side next unto his back, and lay a housing cloth upon the same to keep his back as warm as may be, and so let it continue until it begin to smell; then take the old skin away, and lay a new unto it, continuing so to do the space of three weeks. And if he amend not with this, then draw his back with a hot iron out on both sides of the ridge of his back, from the pitch of the Buttocks, unto a handful within the Saddle, and let every line be an inch distant one from another, and then again overthwart checkerwise, but let not such strokes be over deep, and so burned as every one look yellow, then lay on this charge following; Take Pitch one pound, of Rozen half a pound, of Bole Armony half a pound made in powder, and half a pinte of Tar, and boile all these together in a pot, stirring it untill every thing be molten and thoroughly mingled together, then being lukewarm, dawb all the burning therewith very thick, and thereupon clap as many flocks of the Horses colour, as you can make to abide on, and remove it not before it fall away it self, and if it be in Summer, you may turn him to grasse.

Of the weakness in the back.

IT doth appear by *Laurentius Russus*, that there is another kind of weakness in the back, called in *Italian*, *le gotte* or *morscatura de le reni*, that is to say, the fretting or biting of the reins, which as the said *Russus* saith, proceedeth of abundance of humors resorting to that place, whereby all the hinder parts of the Horse do lose their feeling and strength, and the Horse falleth down on the ground; yea, and such humors resorting to the heart, do suffocate the same, and in two or three hours do cause the Horse to die. The remedy, according to *Russus*, is in this sort; Let him blood abundantly in the neck, and draw his back with a hot iron, in such sort as is declared in the last Chapter. He saith also it is good to make him swim thorough a river, and to rowel him on his hanches nigh the huckle bones; and to make the hair to grow again, it is good, as he saith, to anoint the place with Hogs grease, and three leaved grasse stamped together.

Of Hidebound.

Hidebound, is when the skin cleaveth so fast to the Horses back, that a man cannot pull it from the flesh with his hand, which *Ruellius* calleth *Coriagio*; it cometh for the most part of poverty, or else when the Horse after some great heat hath been suffered to stand long in the rain or wet weather, for that will cause the skin to shrink, and to cling to his ribs. It is known by the leanness of the Horse, and gantness of his belly, and by fast sticking of the skin unto the ribs when you pull at it with your hand. The cure, according to *Martin*, is thus: Let him blood on both sides the belly in the flank veins betwix the flank and the girding place: that done, give him this drink; Take a quart of white Wine, or else of good Ale, and put thereunto three ounces of good Sallet Oil, of Cumin one ounce, of Annis seeds two ounces, of Licoras two ounces, beaten all into fine powder, and give it him lukewarm with a horn. And when he hath drunk, let one standing at his huckle bone, rub him hard with his hand along the back, and overthwart the ribs, the space of half an hour: that done, set him in a warm stable, and let him stand in litter up to the belly, and cover all his back and ribs with a sack first, thoroughly soaked in a tub of cold water, and then well and hard wrung, and over that cast another cloth, and gird it fast with a surcingle, stuffing him well about the back with fresh straw, continuing thus to do every day once the space of a week, during which time give him no cold water, but lukewarm, and put therein a little ground Mault. The wet sack will cause the back to gather heat it self, and the skin to loosen from the flesh, and if you will bestow more cost, you may anoint all his body with Wine and oil mingled together, according to the opinion of the old writers, which no doubt is a very comfortable thing, and must needs supple the skin, and loosen it from the flesh.

Of the diseases in the throat and lungs, and why the griefs of the shoulders and hips be not mentioned before amongst the griefs of the withers and back.

Blundevile.

Some perhaps would look here, that for so much as I have declared the diseases of the neck, withers and back, that I should also follow on now with the griefs of the shoulders and hips. But sith that such griefs for the most part doe cause a Horse to halt, and that it requireth some skill to know when a Horse halteth, whether the fault be in his shoulder, hip, leg, joint, or foot, I think it is not good to separate those parts asunder, specially sith nature hath joyned them together, that is to say, the shoulders to the forelegs, and the hips to the hinder legs. And therefore according to natures order, I will treat of them in their proper place; that is to say, after that I have shewed all the diseases that be in the inward Horses body, not only above the midriffe, as the diseases of the throat, lungs, breast and heart, but also under the midriffe, as those of the stomach, liver, guts, and of all the rest. And first, as touching the diseases of the throat, the Glaunders, and Strangullion, to all Horses is most common.

Of the Glaunders and Strangullion, so called according to the Italian name Stranguillion.

Most Farriers do take the Glaunders and Strangullion to be all one disease, but it is not so, for the Glaunders is that which the Physitians call *Tonsillæ*, and the Strangullion is that which they call in *Latine*, *Angina*, in *Greek*, *Cynanch*, and we commonly call it in *English* the Squinancy, or Quinsie. *Tonsillæ*, is interpreted by them to be the inflammations of the kirkels, called in *Latin*, *Glandes*, the *Italian*, *Glandule*, which lie on both sides of the throat, underneath the root of the tongue, nigh unto the swallowing place; of which word *Glandes*, or *Glandule*, I think we borrow this name Glaunders; for when the Horse is troubled with this disease, he hath great kirkels underneath his jawes, easie to be seen or felt, paining him so, as he can not easily swallow down his meat, which cometh first of cold distillations out of the head: But if such kirkels be not inflamed, they will perhaps go away of themselves, or else by laying a little hot horse-dung and straw unto them, the warmth thereof will dissolve them, and make them to vanish away.

But

But if they be inflamed, they will not go away but encrease and wax greater and greater, and be more painful every day then other, and cause the Horse to cast continually filthy matter at his Nose. The cure whereof, according to *Martin*, is this; First ripe the kernels with this plaister; Take of bran two handfuls, or as much as will thicken a quart of Wine or Ale: then put thereunto half a pound of Hogs grease, and boyl them together, and lay it hot to the sore with a cloth, renewing it every day until it be ready to break, then lance it, and let out all the matter, and tent it with a tent of Flax dipt in this salve; Take of Turpentine, of Hogs grease, of each like quantity, and a little wax, and melt them together, and renew the tent every day until it be whole. *Laurentius Russus* saith, that this disease is very common to Colts, because in them doth abound fluxible moisture, apt to be dissolved with every little heat, and to turn to putrifaction: and therefore if the Horse be not over young, he would have you first to let him bloud in the neck vein, and then to lay unto the same sore a ripening plaister, made of Mallowses, Linseeds, Rew, Wormwood, ground Ivy, Oyl of Bayes, and Dialthea, and to anoint his throat also, and all the sore place with fresh Butter: and the sore being ripe, to lance it, or else to rowel it, that the matter may come forth.

But if the kernels will not decrease, then pull them away by the roots, and dry up the Ulcerous place with an ointment made of unsleck't Lime, Pepper, Brimstone, Nitrum, and Oyl Olive. It shall be also good to purge his head by perfuming him every day once, in such sort as hath been before declared. And let the Horse be kept warm about the head, and stand in a warm stable, and let him drink no cold water: but if you see that after you have taken away the kernels, the Horse doth not for all that leave casting filthy matter at the Nose, then it is to be feared that he hath some spice of the mourning of the Chine, for both diseases proceed of one cause, and therefore I think good to speak of it here presently.

But first I will set down a drink which I have seen proved upon a Horse that I thought could never have been recovered of the same disease, and yet it did recover him in very short space, so as he travelled immediately after many miles, without the help of any other medicine.

A drink for the Strangullion or Glanders.

Take of warm milk as it cometh from the Cow a quart, or in stead thereof a quart of new Beer or Ale warmed, and put thereunto of moulten Butter the quantity of an Egge; and then take one head of Garlick, first clean pilled and then stamped small, which you must put into the milk or drink being made lukewarm, and give it the Horse with a horn, and immediately after the drink be given, catch hold of his tongue with your hand, and having broken two raw Egges, either upon his foreteeth, or against the staffe wherewith his head is holden up, cast those broken Egges, shels and all into his throat, making him to swallow down the same; that done, ride him up and down till he begin to sweat, then set him up covered warm with an old coverlet and straw, not suffering him to eat nor drink for the space of two or three hours after, and let his drink for the space of two or three dayes be somewhat warm, whereunto it is good to put a handfull or two of Bran or ground Malt, and in giving the said drink, it shall not be amisse to powre some thereof into either Nostril.

Of the mourning of the Chine.

This word, Mourning of the Chine, is a corrupt name borrowed of the French tongue, wherein it is called *Morte deschiens*, that is to say, the death of the back. Because many do hold this opinion, that this disease doth consume the marrow of the back; for remedy whereof, they use strange kinds of cures. For some taking it to be a rheume, go about to stop it, by laying attrictive, or binding charges to the nape of the neck. Some again, do twine out the pith of the back with a long wire thrust up into the Horses head, and so into his neck and back, with what reason I know not. Well, I know that few Horses do recover that have this diseale. Some again think that the Lungs of the Horse be rotten, and that the Horse doth cast them out at his Nose. But *Martin* saith, that he hath cut up divers Horses which have been judged to have dyed of the mourning of the Chine, but he could finde never either Back or Lungs to be perished, but only the Liver, and most commonly that side of the Liver which answereth the Nostril whereat he casteth, whereof we will talk in his proper place, when we come to speak of the diseases in the Liver. The *Italians* do call this disease *Ciamorro*, the old Authors do call it the moist malady, whereof *Theomnestus* maketh two differences. For in the one the matter which he doth cast at the Nose is white, and doth not smell at all: and in the other that which he casteth is filthy and stinking corruption. They proceed both of cold humors congealed in the head, but more abounding in the one then in the other; by reason perhaps that the Horse was not cured in time: for of cold first cometh the Pose, and the Cough, then the Glanders, and last of all the Mourning of the Chine. When the Horse casteth matter at the Nose that is not stinking, he may easily be cured by such remedies as have been before declared in the Chapter of the Pose: but if the matter be very filthy and stinking, then it is very hard to cure. Notwithstanding it shall not grieve me to write unto you here, the experience of *Theomnestus*, and of *Laurentius Russus*. *Theomnestus* cure is thus; Take of Water and Hony,

called of the Physicians *Hydromel*, a quart, and put thereunto three ounces of Oyl, and powre that into his Nostril every morning the space of three dayes; and if that do not profit him, then let him drinke every day, or once in two dayes, a quart of old Wine, mingled with some of the medicine, or rather the precious meat, called of the old writers *Tetrapharmacum*, and that will restore him to his former estate. *Laurentius Russus* saith, that of all diseases there is none more perillous, nor more to be suspected, then the rheume which cometh of cold, for Horses have large Conduites, and are full of moisture, and therefore if cold once enter, it findeth matter enough to work on, to breed continual distillation, as well outwardly at the Nose, as inwardly, descending down to the vitall part in such sort, as it doth not suffocate the same.

The signes, according to the said *Russus*, be these; the Horse doth cast matter continually at the Nose, sometime thin, and sometime thick, his Nostrils, Ears, and all his outward parts, will be cold to the feeling, his eyes, head, and all his body heavy, and he will cough, and have small appetite to his meat, and lesse to his drink, and sometime he will tremble and shake. His cure is in this sort; Purge his head, partly by perfuming him, & partly by making him to neeze in such sort as hath been before taught in the Chapter of the Pose, which wayes of perfuming and purging his head as they be good, so doth *Russus* praise these two here following to be most excellent; the first is this: Take of the stalks of *Vitis alba*, otherwise called *Briolie*, or wilde Vine, two or three good handfuls, and being bruised put them into a linnen bag, and fasten the bag to the Horses head, so as he may receive the sent up into his Nostrils, without touching the hearb with his mouth, and this will cause the humors to run down abundantly. The second medicine; Take of Euforbium beaten into fine powder, three ounces, of the juice of Betes one pound, of Swines bloud half a pound, boyl all these together until they be thoroughly mingled together, and liquid like an ointment, and then take it from the fire, and put thereunto one ounce more of Euforbium, and mingle them again thoroughly together, and preserve the same in a box, to use at needful times in this sort; Make two stiffe long rols or tampins of linnen clouts, or such like stufte, sharp pointed like Sugar loaves: which tampins are called of the Physicians in *Latin*, *Pessi*, and being anointed with the ointment aforesaid, thrust them up into the Horses Nostrils, and let them abide therein a pretty while, then pull them out, and you shall see such abundance of matter come forth at his Nose, as is marvellous to behold. *Russus* also praiseth very much this medicine here following.

Take as much of the middle bark of an Elder tree, growing on the water side, as will fill a new earthen pot of a mean size, putting thereunto as much clear water as a pot will hold, and let it boyl until one half be consumed, and then to be filled up again with fresh water, continuing so to do three times one after another, and at the last time that the one half is consumed, take it from the fire, and strain it through a linnen cloth. Then take two parts of that decoction, and one part of Hogs grease, or Butter, and being warmed again together, give the Horse to drinke thereof one hornful, and powre another hornful into his Nostril that casteth; and whensoever you give him this medicine, let the Horse be empty and fasting, and keep him without meat also two or three hours after, for this is a very good drink for any sickness that cometh of cold. Moreover, open the skin of his forehead, and of his temples, and also of his tail with a sharp hot iron, that the corrupt humors may issue outward. That done, take hot bricke, or else a pan of fresh burning coles, and hold it nigh unto his belly and flanks, to the intent that they may be thoroughly warmed, and being so warmed, anoint them all over with Oyl-de-bay, or Dialthea, to defend his body from the cold, and let his head be well covered, and all his belly kept warm. Yea, and it were good to bathe his head sometime, as *Russus* saith, with a bath made of Rew, Wormwood, Sage, Juniper, Bay leaves, and Hyfop. And let his drinke be warm water mingled with Wheat meal; yea, and to make it the more comfortable, it were good, as *Russus* saith, to put thereunto some Cinamon, Ginger, Galingale, and such hot pieces. And his meat in Winter season would be no other but sodden Corn, or warm Mash, made of ground Malt and Wheat bran: in Summer season, if he went to grasse, I think it would do him most good, so that he go in a dry warm ground, for by feeding alwayes downward, he shall purge his head the better, as *Russus* saith. Thus much of the Glanders, and mourning of the Chine. Now we will speak somewhat of the Strangullion, according to the opinion of the Authors, though not to the satisfaction perhaps of our English Farriers.

Of the Strangullion or Squinancy.

THE Strangullion, called of the Latines, *Angine*, according to the Physicians, is an inflammation of the inward parts of the throat, and as I said before, is called of the Greeks, *Cynanche*, which is as much to say in English as Strangling, whereof this name Strangullion as I think is derived, for this disease doth strangle every Man or Beast, and therefore is numbred amongst the perillous and sharp diseases, called of the Latines, *Morbi acuti*; of which strangling, the Physicians in Mans body make four differences; The first and worst is, when no part within the mouth nor without, appeareth manifestly to be inflamed, and yet the patient is in great peril of strangling. The second is, when the inward parts of the throat only be inflamed. The third is, when the inward and outward parts of the throat be both inflamed. The fourth is, when the muscles of the

neck

neck are inflamed, or the inward joynts thereof so loosened, as they straiten thereby both the throat, or weland, or wind-pipe; for short breath is incident to all the four kinds before recited, and they proceed all of one cause; that is to say, of some cholerick or bloody fluxion, which comes out of the branches of the throat veins into those parts, and there breedeth some hot inflammation. But now to prove that a Horse is subject to this disease, you shall hear what *Absyrus*, *Hierocles*, *Vegetius*, and others do say, *Absyrus* writing to his friend a certain Farriar or Horse-leach, called *Astoricus*, speaketh in this manner; When a Horse hath the Strangullion it quickly killeth him; the signes whereof be these; His temples will be hollow, his tongue will swell and hang out of his mouth, his eyes also will be swollen, and the passage of his throat stopt so as he can neither eat nor drink. All these signes be also confirmed by *Hierocles*.

Moreover, *Vegetius* rendereth the cause of this disease, affirming that it proceedeth of abundance of subtile blood, which after long travel will inflame the inward or outward muscles of the throat or weland, or such affluence of blood may come, by use of hot meats after great travel, being so alterative, as they cause those parts to swell in such sort, as the Horse can neither eat nor drink nor draw his breath. The cure, according to *Vegetius*, is in this sort: First bathe his mouth and tongue in hot water, and then anoint it with the gall of a Bull; that done, give him this drink, Take of old Oyl two pound, of old Wine a quart, nine Figs, and nine Leeks heads well stamped and brayed together. And after you have boiled these a while before you strain them, put thereunto a little Nitrum Alexandrinum, and give him a quart of this every morning and evening. *Absyrus* and *Hierocles* would have you to let him blood in the palate of his mouth, and also to powre Wine and Oyl into his Nostrils, and also give him to drink this decoction of Figs and Nitrum sodden together, or else to anoint his throat within with Nitre, Oil, and Hony, or else with Hony and Hogs dung mingled together, which differeth not much from *Galen* his medicine, to be given unto man. For he saith, that Hony mingled with the powder of Hogs dung that is white, and swallowed down, doth remedy the Squinancy presently. *Absyrus* also praiseth the ointment made of Bdellium, and when the inflammation beginneth somewhat to decrease, he saith it is good to purge the Horse, by giving him wilde Cucumber and Nitre to drink. Let his meat be grasse if it may be gotten, or else wet hay, and sprinkled with Nitre. Let his drink also be lukewarm water, with some Barley meal in it.

Of the Cough.

OF Coughs, some be outward, and some be inward. Those be outward which do come of outward causes, as by eating a feather, or by eating dusty or sharp straw, and such like things: which tickling his throat, causeth him to cough: you shall perceive it by wagging and wrying his head in his coughing, and by stamping sometime with his foot, labouring to get out the thing that grieveth him, and cannot. The cure, according to *Martin*, is thus: Take a Willow wand, rolled throughout with a fine linnen clout, and then anoint it all over with Hony, and thrust it down his throat, drawing your hand to and fro, to the intent it may either drive down the thing that grieveth him, or else bring it up, and do this twice or thrice, anointing every time the stick with fresh Hony.

Of the inward and wet Cough.

OF inward Coughs, some be wet, and some be dry. The wet Cough is that cometh of cold, taken after some great heat given to the Horse, dissolving humors, which being afterward congealed, do cause obstruction and stopping in the Lungs. And I call it the wet Cough, because the Horse in his coughing will void moist matter at his mouth after that it is once broken. The signes be these; The Horse will be heavie, and his eyes will run with water, and he will forsake his meat; and when he cougheth, he thrusteth out his head, and reacheth with great pain at the first, as though he had a dry Cough, untill the steam be broken, and then he will cough more hollow, which is a signe of amendment. And therefore, according to *Martin*'s experience, to the intent the steam may break the sooner, it shall be necessary to keep him warm, by clothing him with a double cloth, and by littering him up to the belly with fresh straw, and then to give him this drink; Take of Barley one peck, and boyl it in two or three gallons of fair water, untill the Barley begin to burst, and boyl therewith of bruised Licoras, of Anise seeds or Raisins, of each one pound, then strain it, and to that liquor put of Hony a pinte, and a quarter of Sugarcandy, and keep it close in a pot to serve the Horse therewith four several mornings, and cast not away the sodden Barley with the rest of the strainings, but make it hot every day to perfume the Horse withal, being put in a bag and tied to his head, and if the Horse will eat of it, it shall do him the more good. And this perfuming in Winter season would be used about ten of the clock in the morning, when the Sun is of some height, to the intent the Horse may be walked abroad, if the Sun shine, to exercise him moderately. And untill his Cough wear away, fail not to give him warm water, with a little ground Mault. And as his Cough breaketh more and more, so let his water every day be lesse warmed then other.

Of the dry Cough.

Blundevile.

His seemeth to come of some grosse and tough humor cleaving hard to the hollow places of the Lungs which stoppeth the winde-pipes, so as the Horse cannot easily draw his breath, and if it continue, it will either grow to the Purfick, or else break his winde altogether. The signs be these; He will cough both often, drily, and also vehemently, without voiding at the nose or mouth. The cure, according to *Martin*, is in this sort; Take a close earthen pot, and put therein three pintes of strong Vinegar, and four Eggs, shels and all unbroken, and four Garlick heads clean pilled and bruised, and set the pot being very close covered in some warm dunghil, and there let it stand a whole night; and the next morning with your hand take out the Egges, which will be so soft as silk, and lay them by untill you have strained the Garlick and Vinegar through a fair cloth, then put to that liquor a quartern of Hony, and half a quartern of Sugarcandy, and two ounces of Licoras, and two ounces of Anise seeds, beaten all into fine powder And then the Horse having fasted all the night before, in the morning betwixt seven and eight of the clock, open his mouth with a cord, and whorle therein one of the Egges, so as he may swallow it down, and then immediately powre in after a hornefull of the aforesaid drink, being first made lukewarm, and cast in another Egge with another hornful of drink, and so continue to do, untill he hath swallowed up all the Egges, and drunk up all the drink; and then bridle him, and cover him with warmer clothes then he had before, and bring him into the stable, and there let him stand on the bit, at the bare rack, well littered up to the belly, the space of two hours. Then unbit him, and if it be in Winter, offer him a handfull of Wheaten straw; if in Summer, give him grasse, and let him eat no hay unless it be very well dusted and sprinkled with water, and give him not much thereof. And therefore you shall need to give him the more provender, which also must be well cleansed of all filth and dust, and give him no water the space of nine dayes. And if you perceive that the Cough doth not wear away, then if it be in Winter, purge him with these pills; Take of Lard two pound laid in water two hours, then take nothing but the clean fat thereof, and stamp it in a mortar, and thereto put of Licoras, of Anise seeds, of Fenegreek, of each beaten into powder three ounces, of Aloes in powder two ounces, of Agarick one ounce: Knead these together like paste, and make thereof six bals as big as an Egge. Then the Horse having fasted over night, give him the next morning these pills one after another, anointed with Hony and Oyl mingled together in a platter; and to the intent he may swallow them down whether he will or not, when you have opened his mouth, catch hold of his tongue, and hold it fast while you whirle in one of the pills; that done, thrust it into his throat with a rolling-pin, and then let his tongue go untill he hath swallowed it down; then give him in like manner all the rest of the pills, and let him stand on the bit warm clothed and littered, the space of three hours at the least, and after that give him a little wet hay, and warm water with a little ground mault in it to drink, and let him drink no other but warm water the space of a week. And now and then in a fair sunny day, it shall be good to trot him one hour abroad to breath him.

Of the Fretized, broken and rotten Lungs.

This proceedeth, as *Abfyrus* and *Theornestus* saith, either of an extreme Cough, or of vehement running, or leaping, or of over greedy drinking after great thirst, for the Lungs be inclosed in a very thin film or skin, and therefore easie to be broken, which if it be not cured in time, doth grow to Apostumation, and to corruption, oppressing all the Lungs, which of old Authors is called *Vomica*, and *Suppuratio*. But *Theornestus* saith, that broken Lungs, and rotten Lungs, be two divers diseases, and have divers signes, and divers cures. The signes of broken Lungs be these; the Horse draweth his wind short, and by little at once, he will turn his head often toward the place grieved, and groaneth in his breathing, he is afraid to cough, and yet cougheth as though he had eaten small bones. The same *Theornestus* healed a friends Horse of his, whose Lungs were fretized, or rather broken as he saith, by continual eating of Salt, with this manner of cure here following; Let the Horse have quiet and rest, and then let him bloud in the hanches, where the veins appear most: and give him to drink the space of seven dayes, Barley, or rather Oates sodden in Goats milk; or if you can get no milk, boil it in water, and put therein some thick collops of Lard and of Deers sewer, and let him drink that: and let his common drink in Winter season be the decoction of Wheat meal; and in the Summer time, the decoction of Barley; and this as he saith will bind his Lungs again together. *Vegetius* utterly disalloweth letting of bloud in any such disease as this is, and all manner of sharp medicines, for fear of provoking the Cough, by means whereof the broken places can never heal perfectly. And therefore neither his medicines nor meat would be harsh, but smooth, gentle and cooling. The best medicine that may be given him at all times is this; Take of Fenegreek, and of Linseed, of each half a pound, of Gum dragant, of Mastick, of Myrrhe, of Sugar, of Fitch flowre, of each one ounce. Let all these things be beaten into fine powder, and then infused one whole night in a sufficient quantity of warm water, and the next day give him a quart of this lukewarm, putting thereunto two or three ounces of Oyl of Roses, continuing so to do many dayes together, and if the disease be new, this will heal him; yea, and it will ease him very much, although the disease be old, which is thought incurable. And in Winter season so long as he standeth in the stable,

itable, let him drink no cold water, and let his meat be clean without dust, but in Summer season it were best to let him run to grasse; for so long as he eateth grasse, a man shall scanty perceive this disease. Thus much of broken lungs.

Of putrified and rotten lungs.

THe signes to know whether a Horses lungs be putrified or rotten, according to *Theomnestus* are these; The Horse will eat and drink greedilyer then he was wont to do, he shall be oftner vexed with a Cough, and in coughing he will cast little lumps of matter out of his mouth. The cure whereof, according to *Theomnestus*, is thus; Give him to drink every morning, the space of seven dayes, the juyce of Purslain mingled with Oil of Roses, and add thereunto a little Tragagantum that hath been layed before in steep in Goats milk, or else in Barley or Oaten milk, strained out of the Corn. When the Apostume is broken, then a very strong vile and evill savour will come out of his Nostrils; for remedy whereof, it shall be good to give him the space of seven dayes this drink here following; Take of the root called Costus two ounces, and of Casia or else of Cinnamon three ounces into fine powder, and a few Raisins, and give it him to drink with wine. But *Vegetius* would have him to be cured in this sort, and with lesse cost I assure you; Take of Frankincense and Aristoloch, of each two ounces, beaten into fine powder, and give him that with wine; or else take of unburnt Brimstone two ounces, and of Aristoloch one ounce and a half beaten into powder, and give him that with wine. And he would have you also to draw his breast with a hot iron, to the intent the humors may issue forth outwardly.

Of shortness of breath.

A Horse may have shortness of breath, by hasty running after drinking, or upon a full stomach, or by the descending of humors unto his throat or lungs, after some extreme heat dissolving the said humors, which so long as there is nothing broken, may in the beginning be easily holpen. The signes be these; The Horse will continually pant, and fetch his breath short, which will come very hot out at his nose, and in his breathing he will iquise in the nose, and his flanks will beat thick; yea and some cannot fetch their breath unless they hold their necks right out and straight, which disease is called of the old writers by the Greek name *Orthopnea*. The cure; Let him bloud in the neck, and give him this drink; Take of Wine and Oil, of each a pinte, of Frankincense half an ounce, and of the juice of Horehound half a pinte. It is good also to powre into his throat Hony, Butter and Hogs greafe moulten together, and made lukewarm. *Tiberius* saith, it is good to give him whole Egges, shels and all, steeped and made soft in Vinegar; that is to say, the first day three, the second day five, and the third day seven, and to powre Wine and oil into his nostrils. I for my part would take nothing but Annis seeds, Licoras, and Sugarcandy, beaten all into fine powder, give him that to drink, with Wine and Oil mingled together.

Of the Purick.

THis is a shortness of breath, and the Horse that is so diseased is called of the *Italians*, *Caballo pulzivo*, or *Bolfo*, which I think is derived of the *Latin* word *Vulsus*, by changing *V.* into *B.* and I think differeth not much from him that hath broken lungs, called of *Vegetius* and other old writers *Vulsus*, for such shortness of breath comes either of the same causes, or else much like, as abundance of grosse humors, cleaving hard to the hollow places of the Lungs, and stopping the windepipes. And the winde being kept in, doth resort downward, as *Russius* saith, into the Horses guts, and so causeth his flanks to beat continually without order; that is to say, more swiftly and higher up to the back, then the flanks of any Horse that is sound of winde. And if the disease be old, it is seldom or never cured; and though I finde many medicines, prescribed by divers Authors, few or none do content me, unless it be that of *Vegetius*, recited before in the Chapter of broken Lungs. And if that prevaieth not, then I think it were not amisse according to *Russius* to purge him with this drink here following; Take of Maiden hair, of Ireos, of Ash, of Licoras, of Fenigreek, of Raisins, of each half an ounce, of Cardanum, of Pepper, of Bitter Almonds, of Baurach, of each two ounces, of Nettle seed, and of Aristoloch, of each three ounces, boil them all together in a sufficient quantity of water, and in that decoction dissolve half an ounce of Agarick, and two ounces of Colloquintida, together with two pound of Hony, and give him of this a pinte or a quart at divers times: and if it be too thick, make it thinner, by putting thereunto water wherein Licoras hath been sodden: and if need be, you may also draw both his flanks crosse-wise with a hot iron, to restrain the beating of them, and also slit his Nostrils, to give him more air. And if it be in Summer, turn him to grasse; if in Winter, let him be kept warm, and give him now and then a little sodden whear. *Russius* would have it to be given him three dayes together, and also new sweet wine to drink, or else other good wine mingled with Licoras water.

Blundevile.

Of a Consumption.

A Consumption is no other thing but an exulceration of the lungs, proceeding of some fretting or gnawing humor, descending out of the head into the lungs. And I take it to be that disease which the old Writers are wont to call the dry Malady; which perhaps some would rather interpret to be the mourning of the chine, with whom I intend not to strive. But thus much I must needs say, that every Horse having the mourning of the Chine, doth continually cast at the nose, but in the dry Malady it is contrary. For all the Authors that write thereof affirm, that the Horse avoideth nothing at the nose. And the signes to know the dry Malady, according to their doctrine, be these: His flesh doth clean consume away, his belly is gaunt, and the skin thereof so hard stretched, or rather shrunk up, as if you strike on him with your hand it will sound like a Taber, and he will be hollow backt, and forsake his meat, and though he eateth it, (as *Abysus* saith) yet he doth not digest it, nor prospereth not withal, he would cough and cannot but hickingly, as though he had eaten small bones. And this disease is judged of all the Authors to be incurable. Notwithstanding they say, that it is good to purge his head with such perfumes as have been shewed you before in the Chapter of the Glanders, and also to give him always Coleworts, chopt small with his provender. Some would have him to drink the warm blood of sucking Pigs new slain; and some the juyce of Leeks, with Oyl and Wine mingled together. Others praise Wine and Frankincense; some, Oyl and Rue; some would have his body to be purged and set to grafs.

Of the Consumption of the Flesh, and how to make a lean Horse fat.

Martin saith, that if a Horse take a great cold after a heat, it will cause his flesh to wast, and his skin to wax hard and dry, and to cleave fast to his sides, and he shall have no appetite unto his meat, and the fillets of his back will fall away, and all the flesh of his buttocks, and of his shoulders will be consumed. The cure whereof is thus: Take two Sheeps heads unblead, boyl them in three gallons of Ale, or fair running water, until the flesh be consumed from the bones, that done, strain it through a fine cloth, and then put thereunto of Sugar one pound, of Cinamon two ounces, of Conserve of Roses, of Barberries, of Cherries, of each two ounces; and mingle them together, and give the Horse every day in the morning a quart thereof luke-warm, untill all be spent: and after every time he drinketh, let him be walked up and down in the stable, or else abroad if the weather be warm, and not windy, and let him neither eat nor drink in two hours after, and let him drink no cold water, but luke-warm, the space of fifteen days, and let him be fed by little and little, with such meat as the Horse hath most appetite unto. But if the Horse be nesh and tender, and so wax lean without any apparent grief or disease, then the old Writers would have him to be fed now and then with parched Wheat, and also to drink Wine with his water, and eat continually Wheat-bran mingled with his provender, untill he wax strong; and he must be often dressed and trimmed, and ly soft, without the which things his meat will do him but little good. And his meat must be fine and clean, and given often and by little at once. *Russius* saith, that if a Horse eating his meat with good appetite, doth not for all that prosper, but is still lean: then it is good to give him Sage, Savin, Bay-berries, Earth-nuts, and Boares-grease, to drink with Wine: or to give him the intrails of a Barbel or Tench, with white Wine. He saith also that sodden Beans mingled with Bran and Salt, will make a lean Horse fat in very short space.

Of grief in the Breast.

Blundevile.

LAutentius *Russius* writeth of a disease called in Italian, *Gravessa di petto*, which hath not been in experience amongst our Farriers, that I can learn. It comes, as *Russius* saith, of the superfluity of blood, or other humors dissolved by some extream heat, and resorting down the breast, paining the Horse, so as he cannot well go. The cure whereof according to *Russius* is thus: Let him blood on both sides of the breast in the accustomed veins, and rowel him under the breast, and twice a day turn the rowels with your hand, to move the humors that they may issue forth, and let him go so roweled the space of fifteen days.

Of the pain in the Heart called Anticor, that is to say, contrary to the Heart.

THis proceedeth of abundance of ranck blood bred with good feeding and over much rest: which blood resorting to the inward parts doth suffocate the heart, and many times causeth swellings to appear before the breast, which will grow upward to the neck, and then it killeth the Horse. The signes: The Horse will hang down his head in the manger, forsaking his meat, and is not able to lift up his head. The cure according to *Martin* is thus: Let him blood on both sides abundantly in the plat veins, and then give him this drink: Take a quart of Malmsey, and put thereunto half a quartern of Sugar, and two ounces of Cinamon, and give it him

him luke-warm, then keep him warm in the stable, stuffing him well about the stomach, that the wind offend him no manner of way; and give him warm water with malt always to drink, and give him such meat as he will eat. And if the swelling do appear, then besides letting him bloud, strike the swelling in divers places with your fleam, that the corruption may go forth: and anoint the place with warm Hogs greafe, and that will either make it to wear away, or else to grow to a head, if it be covered and kept warm.

Of tired Horses.

BEcaufe we are in hand here with the vital parts, and that when the Horses be tired with over-much labour, their vital spirits wax feeble, I think it best to speak of them even here, not with long discourfing, as *Vegetius* useth; but briefly to shew you how to refresh the poor Horse, having need thereof, which is done chiefly by giving him rest, warmth and good feeding, as with warm mashes and plenty of provender. And to quicken his spirits, it shall be good to pour a little Oyl and Vinegar into his nostrils, and to give him the drink of Sheeps heads recited before in the Chapter of Consumption of the flesh; yea, and also to bath his legs with this bath: Take of Mallows, of Sage, of each two or three handfuls, and of a Rose-cake; boil these things together, and being boyled, then put unto it a good quantity of Butter, or of Sallet-oyl. Or else make him this charge: Take of Bole Armony, and of Wheat-flowre, of each half a pound, and a little Rozen beaten into powder, and a quart of strong Vinegar, and mingle them together, and cover all his legs therewith; and if it be Summer turn him to grasse.

Of the diseased parts under the Midriff, and first of the Stomach.

THe old Authors make mention of many diseases incident to a Horses stomach, as loathing of meat, spewing up his drink, surfeting of provender, the hungry evil, and such like, which few of our Farriers have observed: and therefore I will briefly speak of as many as I think necessary to be known; and first of the loathing of meat. Blundevile.

Of the loathing of Meat.

A Horse may loath his meat through the intemperature of his stomach, as for that it is too hot or too cold. If his stomach be too hot, then most commonly it will either inflame his mouth and make it to break out in blisters, yea and perhaps cause some Cancker to breed there. The cure of all which things hath been taught before. But if he forsake his meat only for very heat, which you shall perceive by the hotness of his breath and mouth, then cool his stomach by giving him cold water, mingled with a little Vinegar and Oyl to drink, or else give him this drink: Take of Milk, and of Wine, of each one pinte, and put thereunto three ounces of *Mel Rosatum*, and wash all his mouth with Vinegar and Salt. If his stomach be too cold, then his hair will stare and stand right up, which *Absyrus* and others were wont to cure, by giving the Horse good Wine and Oyl to drink, and some would see the in Wine Rew, or Sage; some would adde thereunto white Pepper and Myrthe; some would give him Onyons and Rocket-feed to drink with Wine: Again, there be other some which prescribe the bloud of a young Sow with old Wine. *Absyrus* would have the Horse to eat the green blades of Wheat, if the time of the year will serve for it. *Columella* saith, that if a Horse, or any other Beast, do loath his meat, it is good to give him Wine, and the seed of Gith; or else Wine and Rampt Garlick.

Of casting out his Drink.

Vegetius saith, that the Horse may have such a Palsie proceeding of cold in his stomach, as he is not able to keep his drink, but many times to cast it out again at his mouth. The remedy whereof is to let him bloud in the neck, and to give him Cordial drinks, that is to say, made of hot and comfortable Spices; and also to anoint all his breast, and under his shoulders with hot Oyls, and to purge his head, by blowing up into his nostrils, powders that provoke neezing, such as have been taught you before.

Of Surfeting with glut of Provender.

THe glut of provender or other meat not digested, doth cause a Horse to have great pain in his body, so as he is not able to stand on his feet, but lyeth down, and waltereth as though he had the Bots. The cure whereof according to *Martins* experience, is in this sort: Let him bloud in the neck, then trot him up and down for the space of an hour; and if he cannot stale, draw out his yard, and wash it with a little white Wine luke-warm, and thrust into his yard either a bruised clove of Garlick, or else a little oyl of Camomile, with a wax Candle. If he cannot dung, then rake his fundament, and give him this Glyster: Take of Mallows two or three handfuls, and boil them in a pottle of fair running water; and when the Mallows be sodden, then strain it, and put thereunto a quart of fresh Butter, and half a pinte of Oyl Olive; and having received this Glyster, lead him up and down,

down, untill he hath emptyed his belly, then set him up, and keep him hungry the space of three or four days, and the Hay that he eateth, let it be sprinkled with water, and let him drink water, where-in should be put a little Bran, and when he hath drunk, give him the Bran to eat, and give him little or no provender at all, for the space of eight or ten days.

*Of another kinde of Surfeting with meat or drink, called of us,
Foundering in the body.*

Blundevile.

THis disease is called of the old Writers in Greek, *Critbiasis*; in Latine, *Hordeatio*; it cometh as they say, by eating of much provender suddenly after labour, whilest the Horse is hot and panting, whereby his meat not being digested, breedeth evill humors, which by little and little do spread throughout his members, and at length do oppress all his body, and do clean take away his strength, and make him in such a case, as he can neither go, nor bow his joynts, nor being laid, he is not able to rise again; neither can he stale, but with great pain. It may come also, as they say, of drinking too much in travelling by the way when the Horse is hot, but then it is not so dangerous, as when it cometh of eating too much.

But howsoever it cometh, they say all, that the humors will immediately resort down into the Horses legs, and feet, and make him to cast his hoofs: and therefore I must needs judge it to be no other thing but a plain foundering; which word foundering is borrowed, as I take it, of the French word *Fundu*, that is to say, molten. For foundering is a melting or dissolution of humors, which the Italians call *Infusione*. Martin maketh divers kindes of foundering, as the foundering of the body, which the French men call most commonly *Morsundu*; and foundering in the legs and feet; also foundering before and behinde, which some Authors do deny, as *Magister Maurus*, and *Laurentius Ruffius*, affirming that there are fewer humors behinde then before, and that they cannot easily be dissolved or molten, being so far distant from the heart, and the other vital parts. Whereunto a man might answer, that the natural heat of the heart doth not cause dissolution of humors, but some unnatural and accidental heat, spread throughout all the members, which is dayly proved by good experience. For we see Horses foundered not only before or behinde, but also of all four legs at once, which most commonly chanceth either by taking cold suddenly after a great heat; as by standing still upon some cold pavement, or abroad in the cold winde; or else perhaps the Horse travelling by the way, and being in a sweat, was suffered to stand in some cold water whilest he did drink, which was worse then his drinking: for in the mean time the cold entering at his feet, ascended upward, and congealed the humors which the heat before had dissolved, and thereby when he cometh once to rest, he waxeth stiffe and lame of his legs. But leaving to speak of foundering in the legs, as well before as behinde, untill we come to the griefs in the legs and feet; we intend to talk here only of foundering in the body, according to *Martin*'s experience. The signes to know if a Horse be foundered in the body, be these: His hair will stare, and he will be chill, and shrug for cold, and forsake his meat, hanging down his head, and quiver after cold water; and after two or three days he will begin to cough. The cure, according to *Martin* is thus: First, scour his belly with the Glyster last mentioned, and then give him a comfortable drink made in this sort: Take of Malmisie a quart, of Sugar half a quartern, of Honey half a quartern, of Cinnamon half an ounce, of Licoras and Anise seeds, of each two spoonfuls, beaten into fine powder, which being put into the Malmisie, warm them together at the fire, so as the Honey may be molten, and then give it him luke-warm: that done, walk him up and down in the warm stable the space of half an hour, and then let him stand on the bit two or three hours without meat; but let him be warm covered, and well littered; and give him Hay sprinkled with a little water, and clean sifted provender by a little at once; and let his water be warmed with a little ground Malt therein. And if you see him somewhat cheered, then let him blood in the neck, and also perfume him once a day with a little Frankincense; and use to walk him abroad, when the weather is fair and not windy, or else in the house, if the weather be foul: and by thus using him you shall quickly recover him.

Of the Hungry Evil.

THis is a very great desire to eat, following some great emptiness, or lack of meat, and it is called of the old Authors by the Greek name *Bulimos*, which is as much to say, as a great hunger proceeding, as the Physitians say, at the first of some extreame outward cold, taken by long travelling in cold barren places, and especially where Snow aboundeth, which outward cold causeth the stomach to be cold, and the inward powers to be feeble. The cure according to *Absytus* and *Hierocles*, is in the beginning to comfort the Horses stomach, by giving him Bread soft in Wine. And if you be in a place of rest, to give him Wheat-flowre and Wine to drink; or to make him Cakes or Bals of Flowre and Wine kneaded together, and to feed him with that; or with Wine and Nuts of Pine trees. *Hierocles* saith, if any such thing chance by the way whereas no flowre is to be had, then it shall be best to give him Wine and earth wrought together, either to drink, or else to eat in Bals.

Of the Disease in the Liver.

ALl the old Authors speak much of the pain in the liver, but none of them do declare whereof it cometh, or by what means, saving that *Hippocrates* saith, that some Horses get it by violent running upon some stony or hard ground. I for my part think that the liver of a Horse is subject to as many diseases as the liver of a man, and therefore may be pained diversly. As sometime by the intemperateness of the same, as for that it is perhaps too hot, or too cold, too moist, or too dry: sometimes by means of evill humors, as choler, or flegm abounding in the same, according as the liver is either hot or cold: for heat breedeth choler, and cold, flegm, by means of which intemperature proceedeth all the weakness of the liver. It may be pained also sometime by obstruction and stopping, and sometime by hard knobs, inflammation, Apostume, or Ulcer bred therein, sometime by Consumption of the substance thereof. The signes of heat and hot humors, be these; loathing of meat, great thirst, and looseness of belly, voiding dung of strong sent, and leanness of body. The signes of cold, and cold humors be these: appetite to meat without thirst, a belly neither continually loose nor stiptike, but between times, no strong sent of dung, nor leanness of body, by which kinde of signes, both first and last mentioned, and such like, the weakness and grief of the liver is also to be learned and sought out. Obstruction or stopping most commonly chanceth by travelling or labouring upon a full stomach, whereby the meat not being perfectly digested, breedeth gross and tough humors, which humors by vehemency of the labour, are also driven violently into the small veins, whereby the liver should receive good nutriment, and so breedeth obstruction and stopping. The signes whereof in mans body is heaviness and distension, or swelling, with some grief in the right side under the short ribs, and especially when he laboureth immediately after meat, which things I believe if it were diligently observed, were easie enough to finde in a Horse, by his heavy going at his setting forth, and often turning his head to the side grieved. Of an old obstruction, and especially if the humors be cholerick, breedeth many times a hard knob on the liver, called of the Physitians *Schirrus*, which in mans body may be felt, if the body be not over fat: and it is more easie for him to ly on the right side than on the left, because that lying on the left side, the weight of the knob would oppress the stomach and vital parts very fore, by which signes methinks a diligent Farrier may learn, whether a Horse hath any such disease or not. The inflammation of the liver cometh by means that the blood either through the abundance, thinness, boyling heat, or sharpness thereof; or else through the violence of some outward cause, breaketh out of the veins, and floweth into the body of the liver, and there being out of his proper vessels doth immediately putrifie and is inflamed, and therewith corrupteth so much fleshy substance of the liver as is imbrewed withall; and therefore for the most part, the hollow side of the liver is consumed: yea, and sometime the full side.

This hot bloody matter then is properly called an Inflammation, which by natural heat is afterward turned into a plain corruption, and then it is called an Impostume, which if it break out and run, then it is called an Ulcer, or filthy sore: Thus you see, of one evill Fountain may spring divers griefs, requiring divers cures. And though none of mine Authors, nor any other Farrier that I know have waded thus far, yet I thought good by writing thus much, to give such Farriers as be wise, discreet and diligent, occasion to seek for more knowledge and understanding then is taught them; and me thinks that it is a great shame, that the Farriers of this age should not know much more than the Farriers of old time, sith that besides that the old mens knowledge is not hidden from them, they have also their own experience; and time also bringeth every day new things to light. But now to proceed in discoursing of the liver according to the Physitians doctrine as I have begun; I say then of an inflammation in the hollow side of the liver, the signes be these: loathing of meat, great thirst, looseness of belly, easie lying on the right side, and painful lying on the left. But if the inflammation be on the full side or swelling side of the liver, then the patient is troubled with difficulty of breathing, with a dry cough and grievous pain, pulling and twitching the winde-pipe, and to ly upon the right side is more painful than the left; and the swelling may be felt with a mans hand. But you must understand by the way, that all these things last mentioned be the signes of some great inflammation, for small inflammations have no such signes, but are to be judged only by grief under the short ribs and fetching of the breath.

The signes of Apostumation is painful and great heat. The signes of Ulcerations is decrease of the heat with feebleness and fainting. For the filthy matter flowing abroad with evill vapours corrupteth the heart, and many times causeth death. The signes of the Consumption of the liver, shall be declared in the next Chapter; and as for the curing of all other diseases before mentioned, experience must first teach it ere I can write it. Notwithstanding, I cannot think but that such things as are good to heal the like diseases in Mans body, are also good for a Horse; for his liver is like in substance and shape to a mans liver, differing in nothing but only in greatness. And therefore I would wish you to learn at the Physitians hands, who I am sure first, as touching the weakness of the liver, proceeding of the intemperateness thereof, will bid you to heal every such intemperateness by his contrary; that is to say, heat by cold, and driness by moisture: and so contrary: And therefore it shall be very necessary for you to learn the qualities, natures, and vertues of hearbs, drugs, and all other simples, and how to apply them in time. And for to heal the obstruction of the liver, they will counsel you perhaps to make the Horse drinks of such simples as these

Blundevile.

be, Agrimony, Fumitory, Camomile, Wormwood, Licoras, Anise seeds, Smallage, Parsly, Spikenard, Gentian, Succory, Endive, Sperage, Lupines, the vertues whereof you shall learn in the Herbals: but amongst all simples, there is none more praised than the liver of a Woolf beaten into powder, and mingled in any medicine that is made for any disease in the liver.

The cure of an inflammation consisteth in letting blood, and in bathing, or fomenting the sore place with such herbs and Oyls, as may mollifie and disperse humors abroad, wherewith some simples that be astringent would be always mingled: yea, and in all other medicines that be applied to the liver, for any manner of diseases. Simples that mollifie and disperse be these: Linseed, Fenigreek, Camomile, Anise seeds, Melliot; and such like things. Simples astringent be these: Red Rose leaves, Bramble leaves, Wormwood, Plantain, Myrrhe, Mastick, Stirax, and such like. Apostumes are to be ripened and voided. Ulcers must be cleansed, and scowred downward, either by the belly, or by urine: and therefore the use of such simples as provoke urine in such case is necessary. The old Writers of Horse-leech-craft do say, that when a Horse is grieved in his liver, he will forsake his meat, and his body will waste, his mouth will be dry, his tongue rough and harsh: yea, and it will smell, and he will refuse to ly on that side where his grief is. The cure whereof according to *Absyrus* is in this sort: Let him drink stampd Ireos with Wine allayed with water. He praiseth also an herb much like unto Calamint; called of *Pliny*, *Polymoria*; or let him drink Savory with Wine and Oyl. I think that Agrimony or Liver-wort is as good as the best of them. *Absyrus* would have his body to be chafed with Wine and Oyl mixt together; and to be well littered that he may ly soft: and his provender that should be given him to be steeped first in warm water: and now and then some *Nitrum* to be put into his drink.

Of the Consumption in the Liver.

I Believe that no inward member of a Horse doth suffer so much as the lungs and liver, and that not so much by continual, as by unordinate, and untimely travail, labour, and exercise, whereby either the Horses lungs, or his liver do most commonly perish, and is consumed: yea, and sometime both. Of the Consumption of the lungs, we have talked sufficiently before: therefore let us shew you here the causes whereof the Consumption of the liver proceedeth. The Physitians say, that it may come of any humor, but chiefly and most commonly of cholerick matter, shed throughout the substance of the liver, which putrifying by little and little, and leisurely, doth at length corrupt and perish all the substance of the liver, which thing in mans body doth first proceed, as the Physitians say, either by eating corrupt meats, or else by continual drinking of sweet Wines.

But me thinks that the Consumption of a Horses liver, should come by some extreme heat, inflaming the blood, which afterward being putrified, doth corrupt and exulcerate the substance of the liver. For after inflammation, as I said before, cometh Apostumation, and Exulceration, which is very hard to cure, because the substance of the liver is spongy like unto the lungs. And whilest the liver is so corrupted, there can be no good digestion, for lack whereof the body receiveth no good nutriment, and therefore must needs also languish and consume. The signes according to *Martin* be these:

The Horse will forsake his meat, and will stand stretching himself in length, and never cover to ly down; and his breath will be so strong, as no man can abide it, and he will continually cast yellowish matter at the one nostril, or else at both, according as one or both sides of the liver is corrupted; and on that side that he casteth most, he will have under his jaw, even about the midst thereof, a knob or kernel as much as a Walnut, which when *Martin* findeth, he committeth his carcass to the Crows, taking him to be past cure. But if he were let blood in time, and had such drinks given him, as are good to comfort and strengthen the liver, he thinketh that the Horse might be recovered. I never read any medicine for the wasting of the liver, as I remember, but this only diet, which I found in an old *English* Book: Let him drink for the space of three days no other thing but warm wort; and let him eat no other meat but Oats baked in an Oven, and let him stand meatless the first night before you give him the wort: But I think it were not amiss to put into the wort that he drinketh every morning some good confection or powder made of Agrimony, red Rose leaves, *Saccharum*, *Rosaceum*, *Diarchadon*, *Abbatia*, *Diasantalon*, Licoras, and of the liver of a Wolf, and such other simples as do comfort and strengthen the liver; or else to give him the same things with Goats milk luke-warm.

Of the diseases in the Gall.

IN my opinion the gall of a Horse is subject to divers diseases, as well as the gall of a Man, as to obstruction, whereof cometh the fulness and emptiness of the bladder, and likewise the stone in the gall. But obstruction may chance two manner of ways: First, when the way, whereby the choler should proceed from the liver unto the bladder of the gall as unto his receptacle, is stopped, and thereby the bladder remaineth empty, whereof may spring divers evil accidents: as vomiting, the Lax or Bloudy flux. Secondly, when the way whereby such choler should issue forth of the bladder of the gall down into the guts is shut up, whereby the bladder is over full and aboundeth with too much choler, which causeth heaviness, suffocation, belching, heat, thirst, and disposition

to angryness. The signes of both kindes of obstruction in the gall is costiveness and yellowishness of skin infected with the yellow Jaundise. The stone in the gall, which is somewhat blackish, proceedeth of the obstruction of the conduits of the bladder, whereby the choler being long kept in, waxeth dry, and turneth at length to hard gravel or stones, whereof because there is neither signes nor any grievous accident known to the Physitians, I leave to talk any farther thereof, and the rather for that none of mine Authors do make any mention of the gall at all. Notwithstanding to give some light to the learned Farriers, and that they may the better understand the inward parts of a Horse; I thought good to write thus much, thinking it no time lost while I may profit them any way.

Of the diseases in the Spleen.

The Spleen, as I have said before in many places, is the receptacle of melancholy, and of the dregs of blood, and is subject to the like diseases that the Liver is, that is to say; to swelling, obstruction, hard knobs, and inflammation; for the substance of the Spleen is spongy, and therefore apt to suck in all filth, and to dilate it self; wherefore being full it must needs swell, which will appear in the left side under the short ribs; and such swelling causeth also shortness of breath, and especially when the body doth labour or travel. It is painful also to ly on the right side, because the Spleen being swoln so oppresseth the midriffe, and especially when the stomach is full of meat, and the patient hath worse digestion then appetite, and is troubled with much winde, both upward and downward. Moreover the vapour of the humor doth offend the heart, making it faint, and causeth all the body to be heavy and dull; and if such swelling be suffered to go uncured, then if it be a melancholy humor, and abounding over-much, it waxeth every day thicker and thicker, causing obstruction not only in the veins & arteries, which is to be perceived by heaviness and grief on the left side, but also in the Spleen it self; whereas by vertue of the heat it is hardened every day more and more, and so by little and little waxeth to a hard knob, which doth not only occupy all the substance of the Spleen, but also many times all the left side of the womb, and thereby maketh the evill accidents or griefs before recited much more than they were.

Now as touching the inflammation of the Spleen which chanceth very seldom; for so much as every inflammation proceedeth of pure blood, which seldom entereth into the Spleen: I shall not need to make many words, but refer you over to the Chapter of the Liver, for in such case they differ not, but proceeding of like cause, have also like signes, and do require like cure. The old Writers say, that Horses be often grieved with grief in the Spleen, and specially in Summer season with greedy eating of sweet green meats, and they call those Horses *Lienosos*; that is to say, Spleenetick. The signes whereof (say they) are these, hard swelling on the left side, short breath, often groning, and greedy appetite to meat. The remedy whereof according to *Absyrus* is to make a Horse to sweat once a day during a certain time, by riding him, or otherwise travelling him, and to pour in to his left nostril every day the juyce of Mirabolans mingled with Wine and Water, amounting in all to the quantity of a pinte. But me thinks it would do him more good, if he drank it as *Hierocles* would have him to do. *Eumelius* praiseth this drink: Take of Cummin seed and of Honey, of each six ounces, and of *Lasertium* as much as a Bean, of Vinegar a pinte; and put all these into three quarts of water, and let it stand so all night, and the next morning give the Horse thereof to drink, being kept over night fasting. *Theophrastus* praiseth the decoction of Capers, especially if the bark of the root thereof may be gotten sodden in water to a syrup. Or else make him a drink of Garlick, *Nitrum*, Hore-hound, and Wormwood, sodden in harsh Wine: and he would have the left side to be bathed in warm water, and to be hard rubbed. And if all this will not help, then to give him the fire, which *Absyrus* doth not allow, saying the Spleen lyeth so, as it cannot easily be fired, to do him any good. But for so much as the Liver and Spleen are members much occupied in the ingendering and separating of humors, many evill accidents and griefs do take their first beginning of them, as the Jaundise, called in a Horse, the yellows, drineis of body, and Consumption of the flesh, without any apparent cause why, which the Physitians call *Atrophia*; also evill habit of the body, called of them *Cachexia*, and the Dropsie. But first we will speak of the Jaundise or Yellows.

Of the Yellows.

The Physitians in a mans body do make two kindes of Jaundise: that is to say, the Yellow, proceeding of choler dispersed throughout the whole body, and dying the skin yellow; and the Black, proceeding of melancholy, dispersed likewise throughout the whole body, and making all the skin black. And as the yellow Jaundise cometh for the most part, either by obstruction or stopping of the conduits belonging to the bladder of the gall, which (as I said before) is the receptacle of choler; or by some inflammation of the Liver, whereby the blood is converted into choler, and so spreadeth throughout the body: even so the black Jaundise cometh by mean of some obstruction in the Liver-vein, that goeth to the Spleen, not suffering the Spleen to do his office, in receiving the dregs of the blood from the Liver, wherein they abound too much; or else for that the Spleen is already too full of dregs, and so sheddeth them back again into the veins. But as for the black Jaundise, they have not been observed to be in Horses as in Men, by any of our Farriers in these days.

that I can learn. And yet the old Writers of Horse-leech-craft, do seem to make two kindes of Jaundise called of them *Cholera*, that is to say, the dry choler, and also the moist choler. The signes of the dry choler, as *Abhyrtus* saith, is great heat in the body, and costiveness of the belly, whereof it is said to be dry. Moreover, the Horse will not covet to ly down, because he is so pained in his body, and his mouth will be hot and dry.

It cometh, as he saith, by obstruction of the conduit, whereby the choler should resort into the bladder of the gall, and by obstruction also of the urine vessels, so as he cannot stale. The cure according to his experience, is to give him a Glyster made of Oyl, Water and Nitrum, and to give him no provender, before that you have raked his fundament, and to pour the decoction of Mal-lows mingled with sweet Wine into his nostrils, and let his meat be grass, or else sweet Hay sprinkled with Nitre and Water; and he must rest from labour, and be often rubbed. *Hierocles* would have him to drink the decoction of wilde Coleworts sodden in Wine. Again of the moist choler of Jaundise, these are the signes: The Horses eyes will look yellow, and his nostrils will open wide; his ears and his flanks will sweat, and his stale will be yellow and cholerick; and he will grone when he lyeth down; which disease the said *Abhyrtus* was wont to heal, as he saith, by giving the Horse a drink made of Thyme and Cumin, of each like quantity stamp together, and mingled with Wine, Honey, and Water, and also by letting him bloud in the pasterns. This last disease seemeth to differ nothing at all from that which our Farriers call the Yellows. The signes whereof, according to *Martin*, be these: The Horse will be faint, and sweat as he standeth in the stable, and forsake his meat: and his eyes, and the inside of his lips and all his mouth within will be yellow. The cure whereof according to him is in this sort: Let him bloud in the neck-vein, a good quantity, and then give him this drink: Take of white Wine, of Ale a quart, and put thereunto of Saffron, Turmerick, of each half an ounce, and the juyce that is wrung out of a handful of Celandine, and being luke-warm, give it the Horse to drink, and keep him warm the space of three or four days, giving him warm water with a little Bran in it.

Of the Yellows.

Markham.

THe Yellows is a general disease in Horses, and differ nothing from the yellow Jaundise in men: It is mortal, and many Horses die thereof: the signes to know it is thus; pull down the lids of the Horses eyes, and the white of the eye will be yellow, the inside of his lips will be yellow, and gums; the cure followeth: First, let him bloud in the palat of his mouth, that he may suck up the same, then give him this drink: Take of strong Ale a quart, of the green ordure of Geese strained, three or four spoonfuls, of the juyce of Celandine as much, of Saffron half an ounce; mix these together, and being warm, give it the Horse to drink.

Of the evill habit of the Body, and of the Dropsie.

Blundevile.

AS touching the driness and Consumption of the flesh, without any apparent cause why, called of the Physitians as I said before *Atrophia*; I know not what to say more then I have already before in the Chapter of Consumption of the flesh, and therefore resort thither. And as for the evill habit of the body, which is to be evill coloured, heavy, dull, and of no force, strength, nor liveliness, cometh not for lack of nutriment, but for lack of good nutriment, for that the bloud is corrupted with flegm, choler, or melancholy, proceeding either from the Spleen, or else through weakness of the stomach or liver, causing evill digestion, or it may come by foul feeding: yea, and also for lack of moderate exercise. The Evill habit of the body, is next cousen to the Dropsie, whereof though our Farriers have had no experience, yet because mine old Authors writing of Horse-leech-craft do speak much thereof: I think it good here briefly to shew you their experience therein, that is to say, how to know it, and also how to cure it. But sith none of them do shew the cause whereof it proceeds; I think it meet first therefore to declare unto you the causes thereof, according to the doctrine of the learned Physitians, which in mans body do make three kindes of Dropsies, calling the first *Anasarca*, the second *Ascites*, and the third *Timpanis*. *Anasarca*, is an universal swelling of the body through the abundance of the water, lying betwixt the skin and the flesh, and differeth not from the disease last mentioned, called *Cachexia*, that is to say, Evill habit of the bloud, saving that the body is more swoln in this then in *Cachexia*, albeit they proceed both of like causes, as of coldness and weakness of the liver, or by means that the heart, spleen, stomach, and other members serving to digestion, be grieved or diseased. *Ascites* is a swelling in the covering of the belly, called of the Physitians *Abdomen*, comprehending both the skin, the fat, eight muscles, and the film or panicle called *Peritoneum*, through the abundance of some whayish humor entred into the same, which besides the causes before alleadged, proceedeth most chiefly by means that some of the vessels within be broken or rather cracked, out of the which, though the bloud being somewhat gros cannot issue forth, yet the whayish humor being subtil, may run out into the belly, like water distilling through a cracked pot.

Timpanis, called of us commonly the Timpany, is a swelling of the aforesaid covering of the belly, through the abundance of winde entred into the same, which winde is ingendered of crudity and evill digestion, and whilest it aboundeth in the stomach, or other intrails finding no issue out, it breaketh in violently through the small conduits among the pannels of the aforesaid covering.

not

not without great pain to the patient, and so by tossing to and fro, windeth at length into the space of the covering it self. But surely such winde cannot be altogether void of moisture.

Notwithstanding, the body swelleth not so much with this kinde of Dropsie as with the other kinde called *Ascites*. The signes of the Dropsie is shortness of breath, swelling of the body, evill colour, lothing of meat, and great desire to drink, especially in the Dropsie called *Ascites*, in which also the belly will sound like a bottle half full of water: but in the Timpany it will sound like a Taber. But now though mine Authors make not so many kindes of Dropsies, yet they say all generally, that a Horse is much subject to the Dropsie. The signes according to *Abstrus* and *Hierocles*, be these: His belly, legs, and stones, will be swoln; but his back, buttocks, and flankes, will be dried and shrunk up to the very bones.

Moreover the veins of his face and temples, and also the veins under his tongue will be so hidden, as you cannot see them; and if you thrust your finger hard against his body, you shall leave the print thereof behinde, for the flesh lacking natural heat will not return again to his place, and when the Horse lyeth down he spreadeth himself abroad, not being able to lie round together on his belly; and the hair of his back by rubbing will fall away. *Pelagonius* in shewing the signes of the Dropsie, not much differing from the Physitians first recited, seemeth to make two kindes thereof, calling the one the *Timpany*, which for difference sake may be called in *English* the Winde Dropsie, and the other the Water Dropsie. Notwithstanding both have one cure, so far as I can perceive, which is in this sort: Let him be warm covered, and walked a good while together in the Sun to provoke sweat, and let all his body be well and often rubbed alongst the hair, and let him feed upon Coleworts, Smallage, and Elming boughs, and on all other things that may loosen the belly, or provoke urine; and let his common meat be grasse if it may be gotten, if not, then Hay sprinkled with Water and *Nitrum*. It is good also to give him a kinde of Pulse called *Cich*, steeped a day and a night in water, and then taken out, and laid so as the water may drop away from it. *Pelagonius* would have him to drink Parsly stampd with Wine, or the root of the herb called in *Latine*, *Panax*, with Wine. But if the swelling of the belly will not decrease for all this, then slit a little hole under his belly a handfull behinde the navil, and put into that hole a hollow reed or some other pipe, that the water or winde may go out, not all at once, but by little and little at divers times, and beware that you make not the hole over wide, lest the kail of the belly fall down thereunto; and when all the water is clean run out, then heal up the wound as you do all other wounds, and let the Horse drink as little as is possible.

Of the Evil habit of the Stomach.

IF your Horse either by inward sickness, or by present surfeit, grow to a loath of his meat, or by weakness of his stomach cast up his meat and drink; this shall be the cure for the same: First, in all the drink he drinks, let him have the powder of hot Spices; as namely, of Ginger, Anise seeds, Licoras, Cinamon, and Pepper; then blow up into his nostrils the powder of Tobacco to occasion him to neese, instantly after he hath eaten any meat, for an hour together after, let one stand by him, and hold at his nose a piece of sowre leaven steeped in Vinegar, then anoint all his breast over with the Oyl of Ginnuper and Pepper mixt together. Markham.

Of the diseases of the Guts of a Horse, and first of the Colick.

THe guts of a Horse may be diseased with divers griefs, as with the Colick, with Costiveness, with the Lax, with the Bloody flux and Worms. The Colick is a grievous pain in the great gut, called of the Physitians *Colon*, whereof this disease taketh his name, which gut, because it is very large and ample, and full of corners, it is apt to receive divers matters, and so becometh subject to divers griefs. For sometime it is tormented with the abundance of gross humors gotten betwixt the panicle of the said gut, and sometime with winde having no issue out, sometime with inflammation, and sometime with sharp fretting humors. But so far as I can learn, a Horse is most commonly troubled with the Colick that cometh of winde, and therefore our Farriers do tearm it the winde Colick. The signes whereof be these: The Horse will forsake his meat, and lie down and wallow and walter upon the ground, and standing on his feet he will stamp for very pain with his fore-feet, and strike on his belly with his hinder foot, and look often towards his belly, which also towards his flankes will swell, and seem greater to the eye then it was wont to be. The cure whereof according to *Martin*, is in this sort: Take a quart of Malmsey, of Cloves, Pepper, Cinamon, of each half an ounce, of Sugar half a quartern, and give it the Horse luke-warm, and anoint his flankes with Oyl of Bay, and then bridle him and trot him immediately up and down the space of an hour, until he dung, and if he will not dung, then rake him; and if need be provoke him to dung, by putting into his fundament an Onyon pilled and jagged with a knife crosse-wise, so as the juyce thereof may tickle his fundament; and for the space of three or four days let him drink no cold water, and let him be kept warm. *Russus* was wont to use this kinde of cure: Take a good big reed a span long or more, and being anointed with Oyl, thrust it into the Horses fundament, fastning the outward end thereof unto his tail, so as it cannot slip out, and then having Blundevile.

first anointed and chafed all the Horses belly with some hot Oyl, cause him to be ridden hastily up and down some hilly ground, and that will make him to void the winde out of his belly through the reed: which done, let him be kept warm and fed with good provender, and warm mashies made of Wheat-meal, and Fennel seed, and let him drink no cold water until he be whole. *Abysrtus* would have you to give him a Glyster made of wilde Cowcumber, or else of Hens dung, *Nitrum*, and strong Wine.

Of Costiveness, or Belly-bound.

Blundevile.

Costiveness is when a Horse is bound in the belly and cannot dung, which may come by glut of provender, or overmuch feeding and rest, whereof we have talked sufficient before, also by winde, gross humors, or cold causing obstruction, and stopping in the guts. The cure whereof, according to *Martin*, is in this sort: Take of the decoction of Mallows a quart, and put thereunto half a pinte of Oyl, or in stead thereof, half a pinte of fresh Butter, and one ounce of *Benedicte laxative*, and pour that into his fundament with a little Horn meet for the purpose, that done, clap his tail to his fundament, holding it still with your hand, whilst another doth lead him in his hand, and trot him up and down, that the medicine may work the better, and having voided all that in his belly, bring him unto the stable, and there let him stand a while on the bit well covered, and warm littered, and then give him a little Hay, and let his drink be warmed; it shall not be amiss also to give him that night a warm mash.

Of the Lax.

The *Italians* call this disease *Ragiatura*, and the Horse that hath this disease *Cavallo Arragiato*, or *Sforato*. It may come through the abundance of cholerick humors descending from the liver or gall, down to the guts. But *Russius* saith, that it cometh most commonly by drinking overmuch cold water immediately after provender, or by sudden travelling upon a full stomach, before his meat be digested, or by hasty running, or galloping immediately after water. If this disease continue long, it will make the Horse very weak and feeble, so as he shall not be able to stand on his legs. Notwithstanding, sith nature feeling her self oppressed, endeavoureth thus to ease her self by expelling those humors that grieve her, I would not wish you suddenly to stop it, lest some worse inconvenience grow thereof. But if you see that the Horse looseth his flesh, and waxeth more dull and feeble then he was wont to be; then give him this drink often experimented by *Martin*, and that shall stop him: Take of Bean-flowre, and of Bole Armony, of each a quartern; mingle these things together in a quart of red Wine, and give it him luke-warm, and let him rest and be kept warm, and let him drink no cold drink but luke-warm, and put therein a little Bean-flowre, and let him not drink but once a day, and then not over-much, for the space of three or four days.

Of the Bloody flux.

It seemeth by the old Writers, that a Horse is also subject to the Bloody flux. For *Abysrtus*, *Hierocles*, and *Democritus*, say all with one voyce, that the guts of a Horse may be so exulcerated, that he will void bloody matter at his fundament, yea and his fundament therewith will fall out, which disease they call *Dysenteria*, which is as much to say, as a painful exulceration of the guts, under the which the old men as it seemeth by the words of *Hierocles*, and *Abysrtus*, would comprehend the disease called of the Physitians *Tenasmus*, that is to say, a desire to dung often, and to do but little, and that with great pain: And also another disease called *Procidencia ani*, that is to say, the falling out of the fundament, which the Physitians do account as several diseases. Notwithstanding, for so much as *Dysenteria*, and *Tenasmus*, do spring both of like causes: yea, and also for that the falling out of the fundament hath some affinity with them, I will follow mine Authors, in joyning them all together in this one chapter.

The Physitians make divers kindes of Bloody flux, for sometime the fat of the slimy filth which is voided, is sprinkled with a little blood, sometime the matter that voideth is mixt with the scraping of the guts, and sometime it is waterish blood, like water wherein flesh hath been washed, and sometime blood mixt with melancholy, and sometime pure blood, and by the mixture of the matter you shall know in mans body, whether the ulceration be in the inner small guts or no; if it be, the matter and blood will be perfectly mixt together; but if it be in the outward guts, then they be not mingled together, but come out several, the blood most commonly following the matter. Of this kinde is that disease called before *Tenasmus*, for that is an ulcer in the right gut serving the fundament; and doth proceed even as the flux doth of some sharp humors, which being violently driven, and having to pass through many crooked and narrow ways, do cleave to the guts, and with their sharpness fret them, causing exulceration and grievous pain. The flux also may come of some extream cold, heat or moistness, or by mean of receiving some violent purgation, having therein over-much Scammony, or such like violent simple; or through weakness of the Liver, or other members serving to digestion. Now as touching the falling out of the fundament, the Physitians say, that it cometh through the resolution or weakness of the muscles, serving

to draw up the fundament, which resolution may come partly by over-much straining, and partly they may be loosened by over-much moisture, for which cause children being full of moisture are more subject to this disease then men. And for the self same cause I think that Horses having very moist bodies be subject thereunto. Thus having shewed you the causes of the diseases before recited, I will shew you the cure prescribed by the old Writers. *Absyrtus* would have the fundament on the outside to be cut round about, but so as the inward ring thereof be not touched, for that were dangerous, and would kill the Horse, for so much as his fundament would never abide within his body; and that done, he would have you to give him to drink the powder of unripe Pomgranate shels, called in *Latine*, *Malicorium*, together with Wine and Water, which indeed because it is astringent, is not to be misliked: but as for cutting of the fundament, I assure you I cannot judge what he should mean thereby, unless it be to widen the fundament, by giving it long slits or cuts on the outside; but well I know that it may cause more pain, and greater inflammation. And therefore me thinks it were better in this case to follow the Physitians precepts, which is first to consider whether the fundament being fallen out be inflamed or not; for if it be not inflamed, then it shall be good to anoint it first with Oyl of Roses somewhat warmed, or else to wash it with warm red Wine.

But if it be inflamed, then to bathe it well, first with a sponge dipt in the decoction of Mallows, Camomile, Linseed, and Fenigreek, and also to anoint it well with Oyl of Camomile and Dill mingled together, to assuage the swelling, and then to thrust it in again fair and softly, with a soft linnen cloth. That done, it shall be good to bathe all the place about with red red Wine, wherein hath been sodden *Acatium*, Galles, Acorn cups, parings of Quinces, and such like simples as be astringent, and then to throw on some astringent powder made of Bole Armony, Frankincense, *Sanguis Draconis*, Myrrhe, *Acatium*, and such like: yea, and also to give the Horse this drink, much praised of all the old Writers. Take of Saffron one ounce, of Myrrhe two ounces, of the herb called in *Latine*, *Abrotonum*, named in some of our *English* Herbals Southernwood, three ounces, of Parsly one ounce, of garden Rue, otherwise called Herb Grace three ounces, of *Pirithum*, otherwise called of some people Spittlewort, and of Hylop, of each two ounces, of *Cassia*, which is like Cinamon, one ounce. Let all these things be beaten in fine powder, and then mingled with Chalk and strong Vinegar wrought into paste, of which paste make little cakes, and dry them in the shadow, and being dried, dissolve some of them in a sufficient quantity of Barly milk, or juyce called of the old Writers, and also of the Physitians, *Cremor Ptisanæ*, and give to the Horse to drink thereof with a horn, for the medicine, as the Authors write, doth not only heal the Bloody-flux, and the other two diseases before recited, but also if it be given with a quart of warm water, it will heal all grief and pain in the belly, and also of the bladder, that cometh for lack of staling. And being given with sweet Wine, it will heal the biting of any Serpent or mad Dog.

Of the Worms.

IN a Horses guts do breed three kindes of Worms, even as there doth in Mans body, though they be not altogether like in shape. The first long and round, even like to those that children do most commonly void, and are called by the general name Worms. The second little worms having great heads, and small long tails like a needle, and be called bots. The third be short and thick like the end of a mans little finger, and therefore be cald Troncheons: and though they have divers shapes according to the diversity of the place perhaps where they breed, or else according to the figure of the putrified matter whereby they breed: yet no doubt they proceed all of one cause, that is to say, of a raw, gross and flegmatick matter apt to putrifaction, ingendered most commonly by foul feeding: and as they proceed of one self cause, so also have they like signes, and like cure. The signes be these: The Horse will forsake his meat, for the Troncheons and the Bots will cover always to the maw, and pain him sore. He will also lie down and wallow, and standing he will stamp and strike at his belly with his hinder-foot, and look often toward his belly.

The cure according to *Martin* is thus: Take of sweet Milk a quart, of Honey a quartern, and give it him luke-warm, and walk him up and down for the space of an hour, and so let him rest for that day, with as little meat or drink as may be, and suffer him not to lie down. Then the next day give him this drink: Take of Herb-grace a handful, of Savin as much, and being well stampd, put thereunto a little Brimstone, and a little Soot of a Chimney, beaten into fine powder, and put all these things together in a quart of Wort or Ale, and there let them lie steep the space of an hour or two, then strain it well through a fair cloth, and give it the Horse to drink luke-warm, then bridle him, and walk him up and down the space of an hour: that done, bring him into the stable, and let him stand on the bit two or three hours, & then give him a little Hay. *Laurentius Russus* saith, that it is good to give the Horse the warm guts of a young Hen with a Salt three days together in the morning, and not to let him drink untill it be noon. Some say that it is good to ride him, having his bit first anointed with dung coming hot from the man: some again use to give him a quantity of Brimstone, and half as much Rozen beaten into powder, and mingled together with his provender, which he must eat a good while before he drinketh.

I have found by often tryal, that if you give the Horse with a horn a good pretty dishful of Salt brine, be it flesh brine, or Cheese brine, it will kill any of the three kindes of Worms, and make the Horse to avoid them dead in short time after.

of Worms in general.

Markham.

BESIDES the Bots, there are other Worms, which lie in the great paunch or belly of a Horse, and they be shining, of colour like a Snake, six inches in length, great in the midst and sharp at both ends, and as much as a Spindle: they cause great pain in a Horses belly, as you shall perceive by his continual striking of himself on the belly with his foot. The cure is thus: Give him two or three mornings together new Milk and Garlick boyled together, or chopt Hay in his provender, either of both will serve: it killeth the worms and maketh them to void.

of the pain in the Kidneys.

Blundevile.

ME thinks that the Kidnies of a Horse should be subject to as many griefs as the Kidnies of a Man, as to Inflammation, Obstruction, Apostumes and Ulcers, and specially to obstruction that cometh by means of some stone or gravel gathered together in the Kidnies whereby the Horse cannot stale but with pain; for I have seen divers Horses my self that have voided much gravel in their stale, which without doubt did come from the Kidnies; but my Authors do refer such griefs to the bladder and urine, and write of no disease but only of the inflammation of the Kidnies, which is called of them *Nephritis*, and so it is cald of the Physitians. It cometh, as they say, by some great strain over some ditch; or else by bearing some great burthen. The signes whereof be these: The Horse will go rolling behinde and staggering, his stones will shrink up, and his stale will be blackish and thick. I think this disease differeth not from that which we called before the swaying of the back when we talked of the griefs in the back and loins, and therefore resort thither. The cure of this disease, according to the best of the old Writers, is in this sort: Bathe his back and loins with Wine, Oyl, and Nitrum warmed together, after that you have so bathed him, let him be covered with warm clothes, and stand littered up to the belly with straw, so as he may lie soft; and give him such drinks as may provoke urine, as those that be made with Dill, Fennil, Anise, Smallage, Parsley, Spikenard, Myrrhe, and Cassia. Some say it is good to give him a kinde of pulse called Cich with Wine. Some again do praise Ewes milk, or else Oyl and Deers sewet molten together, and given him to drink, or the root of the herb called *Asphodelus*, Englished by some Daffadil, sodden in Wine.

Of the diseases belonging to the Bladder and Urine of a Horse.

Hierocles saith, that a Horse is subject to three kinde of diseases incident to the Bladder or Urine, the first is called *Stranguria*; the second *Dysuria*; the third *Ischuria*. *Stranguria*, otherwise called in Latine, *Stillitidum*, and of our old Farriers, according to the French name *Chowdepis*, is, when the Horse is provoked to stale often, and voideth nothing but a few drops, which cometh, as the Physitians say, either through the sharpness of the urine, or by some exulceration of the bladder, or else by means of some Apostume in the liver or kidnies; which Apostume being broken, the matter resorteth down into the bladder, and with the sharpness thereof causeth a continual provocation of pissing.

Dysuria is when a Horse cannot piss but with great labour and pain, which for difference sake I will call from hence forth the pain-piss. It may come sometime through the weakness of the bladder and cold intemperature thereof, and sometime through the abundance of flegmatick and gross humors, stopping the neck of the bladder. *Ischuria*, is when the Horse cannot piss at all, and therefore may be called the piss-supprest, or suppression of urine, whether you will: me thinks always that the shorter and the more proper the name is, the better and more easie it is to pronounce.

It may come, as the Physitians say, by weakness of the bladder, or for that the Water conduit is stopt with gross humors, or with matter descending from the liver or kidnies, or with the stone: yea and sometimes by means of some inflammation or hard knob growing at the mouth of the conduit, or for that the sinews of the bladder is nummed, so as the bladder is without feeling: or it may come by retention, and long holding of the water, most of which causes *Hierocles* also reciteth, adding thereunto that it may chance to a Horse through over-much rest and idleness, and also by means of some extreame cold, and especially in Winter season; for the which warmth of the fire is a present remedy. But now mine Authors do not shew for every one of these three kinds of diseases several signes; but only say, that when a Horse cannot stale, he will stand as though he would stale, and thrust out his yard a little; and also for very pain, stand beating his tail betwixt his thighs.

Neither do they seem to appoint several cures, but do make a hochpoch, mingling them all together: some of them praising one thing, and some another: For some say it is good to mingle the juyce of Leeks with sweet smelling Wine and Oyl together, and to pour it into his right nostril, and then to walk him up and down upon it, and that will make him to stale. Some say it is good to give him Smallage feed, or else the root of wilde Fennil sodden with Wine to drink; or to put fine sharp Onions clean pilled, and somewhat bruised into his fundament, and to chafe him immediately upon it, either by riding him or otherwise, and that shall cause him to stale presently. It is good also to bathe all his back and loins with warm water.

The scraping of the inward parts of his own hoofs beaten into powder and mingled with Wine, and poured into his right nostril, will make him to stale, if you chafe him upon it, and the rather as *Hierocles* saith, if you cary him to some Sheeps cot, or other place where Sheep are wont to stand, the smell of whose dung and pifs, without any other medicine, as he saith, will provoke him to stale.

Some will give the Horse white Dogs dung dried and mingled with Salt, Wine, and *Ammoniacum* to drink, some Hogs dung only with Wine, and some the dregs of Horse-piss with Wine, and many other medicines which I leave to rehearse, for fear of being too tedious, and especially, sith *Martins* experience doth follow here at hand; agreeing in all points with *Laurentius Russius* cure, which is in this sort: First, draw out his yard, and wash it well in white Wine, and scour it well, because it will be many times stopped with dirt and other baggage together, and hardned like a stone; and then put a little Oyl of Camomile into the conduit, with a wax Candle and a bruised clove of Garlick, and that will provoke him to stale. And if that will not help: Take of Parsley two handfuls, of Coriander one handfull, stamp them and strain them with a quart of white Wine, and dissolve therein one ounce of Cake-sope, and give it luke-warm unto the Horse to drink, and keep him as warm as may be; and let him drink no cold water for the space of five or six days; and when you would have him to stale, let it be either upon plenty of straw, or upon some green plot, or else in a Sheeps cot, the savour whereof will greatly provoke him to stale, as hath been aforesaid.

Of Pissing Bloud.

P*elagonius* saith, that if a Horse be over-much laboured, or over-charged with heavy burthen, or over fat, he will many times piss bloud, and the rather as I think, for that some vein is broken within the Horses body, and then cleer bloud will come forth many times, as the Physicians say, without any piss at all. But if the bloud be perfectly mingled together with his stale, then it is a signe that it cometh from the Kidnies, having some stone therein, which through vehement labour, doth fret the kidnies and veins thereof, and so cause them to bleed, through which while the urine passeth, must needs be infected and dyed with the bloud. It may come also by some stripe, or from the muscle that incloseth the neck of the bladder. The cure according to *Pelagonius*, *Abysrtus*, *Hierocles*, and the rest, is thus: Let the Horse bloud in the palate of the mouth, to convert the bloud the contrary way; then take of Tragagant that hath been steeped in Wine, half an ounce, and of Poppy seed one dram and one scruple, and of Stirax as much, and twelve Pine-apple-kernels: let all these things be beaten and mingled well together, and give the Horse thereof every morning, the space of seven days, the quantity of a Hasel-nut distempered in a quart of Wine: me thinks that the quantity of a Wal-nut were too little for so much Wine. Some write that it is good to make him a drink with the root of the herb *Aphodilus*, which some call Daffadil, mingled with Wheat-flowre and Sumach sodden long in water, and so to be given the Horse with some Wine added thereunto; or make him a drink of Goats milk and Oyl, straining thereunto a little Fromenty. *Anatolius* saith, that it is good to give the Horse three days together, sodden Beans clean pilled, whereunto would be added some Deers Sewet, and a little Wine.

Of the Colt Evil.

THis name Colt Evil, in my judgement, doth properly signifie that disease, which the Physicians call *Priapismus*, which is a continual standing together, with an unnatural swelling of the yard proceeding of some winde, filling the arteries and hollow sinew or pipe of the yard; or else through the abundance of seed, which do chance oftentimes to man, and I think sometime to stoned Horses. Notwithstanding *Martin* saith that the Colt Evil is a swelling of the sheath of the yard, and part of the belly thereabout, caused of corrupt seed, coming out of the yard, and remaining within the sheath where it putrifieth. And Geldings most commonly are subject to this disease, not being able for lack of natural heat, to expel their seed any further. For Horses, as *Martin* saith, are seldom troubled with this disease, because of their heat, unless it be when they have been over travelled, or otherwise weakened. The cure according to him is thus: Wash the sheath clean within with luke-warm Vinegar, then draw out his yard and wash that also: that done, ride him into some running stream up to the belly, tossing him therein to and fro to allay the heat of the members, and use him thus two or three days, and he shall be whole.

Another of the Colt Evil.

THe Colt Evil is a disease that cometh to stoned Horses, through ranckness of nature and want of vent, it appeareth in his cod and sheath, which will swell exceedingly; the cure is nothing: for if you will but every day, twice or thrice drive him to the mid-side in some Pond or running River, the swelling will fall, and the Horse will do well. If the Horse be of years, and troubled with this grief; if you put him to a Mare, it is not amiss; for standing still in a stable without exercise, is a great occasion of this disease.

Of the mattering of the Yard.

IT cometh at covering time, when the Horse and Mare both are over-hot, and so perhaps burn themselves. The cure according to *Martin* is thus: Take a pinte of white Wine, and boil therein a quartern of rock Allum, and squirt thereof into his Yard three or four squirtsfuls, one after another, and thrust the squirt so far as the liquor may pierce to the bottom, to scour away the bloody matter, continuing thus to do once a day untill he be whole.

Of the shedding of Seed.

Blundevile.

THis disease is called of the Physitians *Gonorrhoea*, which may come sometime through abundance and ranckness of seed, and sometime by the weakness of the stones and seed vessels not able to retain the seed untill it be digested and thickned. *Vegetius* saith, that this disease will make the Horse very faint and weak, and especially in Summer season. For cure whereof, the said *Vegetius* would have the Horse to be ridden into some cold water, even up to the belly, so as his stones may be covered in water; and then his fundament being first bathed with warm water and Oyl, he would have you to thrust in your hand and arm even to the very bladder, and softly to rub and claw the same, and the parts thereabouts, which be the seed vessels: that done to cover him warm that he take no cold, and every day he would have you to give the Horse Hogs dung to drink with red Wine untill he be whole. I for my part, if I thought it came of weakness, as is aforesaid, which I would judge by the waterishness of the seed and unlustiness of the Horse, would give him red Wine to drink, and put therein a little *Acatium*, the juyce of Plantain, and a little Mastick, and bath his back with red Wine and Oyl of Roses mingled together.

Of the Falling of the Yard.

IT cometh, as I take it, through the weakness of the member, by means of some resolution in the muscles and sinews serving the same, caused at the first (perhaps) by some great strain or stripe on the back. It may come also by weariness and tiring. For remedy whereof, *Abysinus* was wont to wash the yard with salt water from the Sea, if it may be gotten; and if not, with water and salt; and if that prevailed not, he would all to prick the outmost skin of the yard with a sharp needle, but not deep, and then wash all the pricks with strong Vinegar, and that did make the Horse, as he saith, to draw up his yard again immediately: yea, and this also will remedy the falling out of the fundament. *Pelagonius* would have you to put into the pipe of his yard, Honey and Salt boyled together and made liquid, or else a quick flie, or a grain of Frankincense, or a clove of Garlick clean pilled, and somewhat bruised; and also to pour on his back Oyl, Wine, Nitre made warm and mingled together. But *Martins* experience is in this sort: First, wash the yard with warm white Wine, and then anoint it with Oyl of Roses and Honey mingled together, and put it up into the sheath, and make him a Cod-piece of Canvas to keep it still up, and dress it thus every day once until it be whole. And in any case let his back be kept warm, either with a double cloth, or else with a charge made of Bole Armony, Egges, Wheat-flowre, *Sanguis Draconis*, Turpentine, and Vinegar; or else lay on a wet sack, which being covered with another dry cloth will keep his back very warm.

Of the swelling of the Cod and Stones.

A*bsyrtus* saith, that the inflammation and swelling of the cod and stones, cometh by means of some wound, or by the stinging of some Serpent, or by fighting one Horse with another. For remedy whereof, he was wont to bathe the cod with water wherein hath been sodden the roots of wilde Cowcumber and Salt, and then to anoint it with an Ointment made of *Cerusa* Oyl, Goats grease, and the white of an Egge. Some again would have the cod to be bathed in warm Water, Nitrum, and Vinegar together, and also to be anointed with an Ointment made of Chalk, or of Potters earth, Oxe dung, Cumin, Water and Vinegar, or else to be anointed with the juyce of the herb *Solanum*, called of some Night-shade, or with the juyce of Hemlock growing on dunghills: yea, and also to be let blood in the flanks. But *Martin* saith, that the swelling of the cods cometh for the most part after some sickness or surfeting with cold, and then it is a signe of amendment. The cure according to his experience is in this sort. First let him blood on both sides the flank veins. Then take of Oyl of Roses, of Vinegar of each half a pinte, and half a quartern of Bole Armony beaten to powder. Mingle them together in a cruse, and being luke-warm, anoint the cods therewith with two or three feathers bound together, and the next day ride him into the water, so as his cods may be within the water, giving him two or three turns therein, and so return fair and softly to the stable, and when he is dry anoint him again as before, continuing thus to do every day once until they be whole. The said *Martin* saith also, the cods may be swollen by means of some hurt or evill humors resorting into the cod, and then he would have you cover the cods with a charge made of Bole Armony and Vinegar wrought together, renewing it every day once untill the swelling go away, or that it break of it self, and if it break, then tent it with *Mel Rosatum*, and make him a breech of Canvas to keep it in, renewing the tent every day once untill it be whole.

Of incording and bruising.

Blundevile.

THis term, Incording, is borrowed of the Italian word *Incordato*, which in plain English is as much to say as Bursten, and might be more rightly termed of us uncorded. For when a Horse is Bursten, his guts fall down into the cod making it to swell. The Italians, as I take it, did call it *Incordato*; because the gut follows the string of the stone, called of them *Il cordone*, or *La corda*, whereof *Incordato* seems to be derived with some reason. According to which reason we should call it rather Instringed, then Incorded; for *Corda* doth signifie a string or cord. Notwithstanding, sith that Incording is already received in the stable, I for my part am very well content therewith, minding not to contend against it. But now you have to note, that either Man or Beast may be Bursten diversly; and according to the names of the parts grieved, the Physitians do give it divers names; for you shall understand, that next unto the thick outward skin of the belly, there is also another inward thin skin covering all the muscles, the Caul, and the guts of the belly, called of the Anatomists *Peritoneum*, which skin cometh from both parts and sides of the back, and is fastened to the Midriffe above, and also to the bottom of the belly beneath, to keep in all the contents of the neather belly. And therefore if the skin be broken, or over sore strained or stretched, then either some part of the caul or guts slippeth down, sometime into the cod, sometime not so far.

If the guts slip down into the cod, then it is called of the Physitians by the Greek name *Enterocoele*, that is to say, Gut-bursten. But if the caul fall down into the cod, then it is called of the Physitians *Epiplocele*, that is to say, Caul-bursten. But either of the diseases is most properly incident to the male kinde, for the female kinde hath no cod. Notwithstanding they may be so bursten, as either gut or caul may fall down into their natures, hanging there like a bag; but if it fall not down so low, but remaineth above nigh unto the privy members or flanks, which place is called of the Latins, *Inguen*, then of that place the Bursting is called of the Physitians *Bubonocoele*, whereunto I know not what English name to give, unlesse I should call it flank-bursten. Moreover, the cod or flank may be sometimes swollen, by means of some waterish humour gathered together in the same, which is called of the Physitians *Hydrocele*, that is to say, Water-bursten; and sometimes the cod may be swollen by means of some hard peece of flesh cleaving to the thin skins or panicles of the stones, and then it is called of the Physitians *Sarcocoele*, that is to say, Flesh-bursten.

But forasmuch as none of mine Authors, *Martin*, nor any other Farrier in these dayes that I know, have intermeddled with any kind of Bursting, but only with that wherein the gut falleth down into the cod: leaving all the rest apart, I will only talke of this, and that according to *Martin's* experience, which I assure you differeth not much from the precepts of the old writers: But first you shall understand, that the Gut-bursten, and Flank-bursten, doth proceed both of one cause, that is to say, by means that the skin, called before *Peritoneum*, is either sore strained, or else broken, either by some stripe of another Horse, or else by some strain in leaping over a hedge, ditch, or pale, or otherwise; yea, and many times in passing a career, through the carelesness of the Rider, stopping the Horse suddenly without giving warning, whereby the Horse is forced to cast his hinder legs abroad, and so straineth or bursteth the skin aforesaid, by means whereof the gut falleth down into the cod. The signs be these; The Horse will forsake his meat, and stand shoring and leaning alwayes on that side that he is hurt; and on that side if you search with your hand betwixt the stone and the thigh upward to the body, and somewhat above the stone you shall find the gut it self big and hard in the feeling, whereas on the other side you shall find no such thing. The cure, according to *Martin*, is thus; Bring the Horse into some house or place that hath over head a strong balk or beam going overthwart, and strew that place thick with straw; then put on four pasternes with four rings on his feet, and then fasten the one end of a long rope to one of those rings, then thread all the other rings with the loose end of the rope, and so draw all his four feet together, and cast him on the straw. That done, cast the rope over the baulk, and hoise the Horse so as he may lie flat on his back, with his legs upward without struggling. Then bathe his stones well with warm Water and Butter molten together, and the stones being somewhat warm, and well mollified, raise them up from the body with both your hands being closed by the fingers fast together, and holding the stones in your hands in such manner, work down the gut into the body of the Horse, by striking it downward continually with your two thumbs, one labouring immediately after another, untill you perceive that side of the stone to be so small as the other, and having so discorded, that is to say, returned the gut into his right place; take a list of two fingers broad thoroughly anointed with fresh Butter, and tie his stones both together with the same so nigh as may be, not over hard, but so as you may put your finger betwixt. That done, take the Horse quietly down, and lead him fair and softly into the stable, where he must stand warm, and not be stirred for the space of three weeks. But forget not the next day after his discording to unloosen the list, and to take it away, and as well at that time, as every day once or twice after, to cast a dish or two of cold water up into his cods, and that will cause him to shrink up his stones, and thereby restrain the gut from falling down, and at the three weeks end be sure, it were not amisse to geld the stone on that side away, so shall he never be encorded again on that side. But let him not eat much nor drink much, and let his drink be alwayes warm.

of the botch in the grains of a Horse.

IF a Horse be full of humours and then suddenly laboured, the humours will resort into the weakest parts, and there gather together and breed a Botch, and especially in the hinder parts betwixt the thighs, not far from the cuds. The signes be these; The hinder legs will be all swollen, and especially from the hoofs upward, and if you feel with your hand you shall find a great kind of swelling, and if it be round and hard it will gather to a head. The cure, according to *Martin*, is thus; First ripe it with a plaister; take of Wheat-flowre, of Turpentine, and of Hony, of each a like quantity, stirring it together to make a stiffe plaister, and with a cloth lay it unto the sore, renewing it every day once untill it break or wax soft, and then lance it as the matter may run downward; then tent it with Turpentine and Hogs grease molten together, renewing it every day once, untill it be whole.

Of the diseases incident to the womb of a Mare, and specially of barrenness.

IT seemeth by some writers, that the womb of a Mare is subject to certain diseases, though not so many as the womb of a Woman, as to ascent, descent, falling out, Convulsion, Barrenness, abortement; yea, *Aristotle* and others do not let to write, that menstrual blood doth naturally void from the Mare, as from the Woman, though it be so little in quantity, as it cannot be well perceived. But sith none of mine Authors have written thereof to any purpose, nor any Farrier of this time that I know, have had any experience in such matters, I will passe them all over with silence, saving barrenness, whereof I promised before in his due place, to declare unto you the causes and such kind of cure for the same, as the old writers have taught. A Mare then may be barren through the untemperateness of the womb or matrix, as well for that it is too hot and fiery, or else too cold and moist, or too dry, or else too short, or too narrow, or having the neck thereof turned awry, or by means of some obstruction or stopping in the matrix; or for that the Mare is too fat, or too lean, and many times Mares go barren, for that they be not well Horsed. Well, the cure of barrenness that cometh through the fault of the matrix or womb according to the old writers is thus; Take a good handful of Leeks, stamp them in a mortar with halfe a glasse full of wine, then put thereunto twelve Flies, called of the Apothecaries *Cantharides*, of divers colours, if they may be gotten, then strain all together with a sufficient quantity of water to serve the Mare therewith two dayes together, by powring the same into her nature with a horn or glyster-pipe made of purpose, and at the end of three dayes next following offer the Horse unto her that should cover her, and immediately after that she is covered, wash her nature twice together with cold water.

Another receipt for the same purpose.

Take of Nitrum, of Sparrows dung, and Turpentine, of each a like quantity well wrought together and made like a Suppository, and put that into her nature, and it will cause her to desire the Horse, and also to conceive. *Hippocrates* saith, that it is good also to put a nettle into the Horses mouth that should cover her.

Of the Itch, Scab, and Manginess in the tail, and falling of the tail.

Blundevile.

IN Spring time Horses many times are troubled with the Troncheons in their fundament, and then they will rub their tail, and break the hair thereof, and yet in his tail perhaps, shall be neither Itch, Scurffe nor Scab; wherefore if you rake the Horse well with your hand anointed with Sope, and search for those Troncheons and pull them clean out, you shall cause him to leave rubbing: and if you see that the hair do fall away it self, then it is a sign, that it is either eaten with Worms, or that there is some Scurffe or Scab fretting the hair, and causing such an itch in his tail as the Horse is alwayes rubbing the same. As touching the wormes, Scurffe or Scab, it shall be good to anoint all the tail with Sope, and then to wash it clean even to the ground with strong lie, and that will kill the Wormes, and make the hair to grow again. And if much of the tail be worn away, it shall be needful to keep the tail continually wet with a sponge dipt in fair water, and that will make the hair to grow very fast. But if the Horses tail be mangy, then heal that like as you do the manginess of the mane before rehearsed. Again, if there breed any Canker in the tail (which will consume both flesh and bone, and as *Laurentius Rusticus* saith, make the joints to fall away one by one) it shall be good, as *Martin* saith, to wash all his tail with *Aqua fortis*, or strong water made in this sort: take of green Copperas, of Allum, of each one pound, of white Copperas a quartern. Boyl of all these things together in three quarts of running water in a strong earthen pot, untill one half be consumed, and then with a little of this water being made lukewarm, wash his tail with a little clout, or flax bound to the end of a stick, continuing so to do every day once untill it be whole.

Of the Scab.

THe Scab is a foul scurfie in divers parts of a Horses body, and cometh of poverty or ill keeping, or many times by going amongst woods wherein they are infected with water boughs: it is most incident to old Horses, which will die thereof, and chiefly in the Spring time when the new bloud appears: the cure whereof I have spoken before.

How to know when a Horse halteth before in what part his grief is.

BEing now come to talke of the griefs in the shoulders, legs, hips, houghes, joynts and hoofs, causing the Horse most commonly to halt: I think it good first to shew you the way how to find in what part of his legs the Horse is grieved when he halteth either before or behind. And first you have to consider that if a Horse halteth before, it must be either in his shoulders, in his legs, or in his feet. If it be in his shoulders and new hurt, the Horse will not lift that leg, but trail it nigh the ground. If it be old hurt, he will cast that leg further from him in his going then the other, and if he be turned on the fore-side, then he will halt so much the more. If a Horse halteth in the leg, it is either in the knee, in the shank, or else in the pastern joynt; if it be either in the knee, or pastern joynt, he will not bow that leg in his going like the other, but go very stiffly upon it. If he halteth in the shank, then it is by means of some splent, wind gal, or such apparent grief, apt to be seen or felt. If he halt in the foot, it is either in the coronet, heel, in the toe, in the quarters, or sole of the foot. If it be in the coronet, the grief will be apparent, the skin being broken or swollen some manner of way. If in the heel, as by over-reach, or otherwise, then he will tread most on the toe. If upon any of the quarters, then going on the edge of a bank or hilly ground, he will halt more then on the plain ground, and by the Horses coming toward you, and going from you upon such edge or bank, you shall easily perceive whether his grief be in the inward quarter or in the outward quarter; the quarter is to be understood, from the mid hoof to the heel.

If he halt in the toe, which is not commonly seen, then he will tread more upon the heel. If the grief be in the sole of the foot, then he will halt all after one sort upon any ground, unlesse it be upon the stones. And to be sure in what part of the foot the grief is, it shall be good first to make him go upon the plain ground, and then upon a hard and stony ground: yea, and also a bankie ground. Thus having declared unto you in general, how to know in what part a Horse is grieved when he halteth before: I think it meet first to shew you orderly all the particular griefs and sorances, whereunto the foreparts of a Horse is subject, together with the causes, signes and cure thereof. That done, I will speak of halting behind, and shew you first generally where the grief is, and then particularly declare unto you every grief incident to the hinder parts of a Horse. And lastly, I will speak of such griefs and sorances as are commonly in both parts, that is to say, as well to the fore legs and fore feet, as to the hinder legs and hinder feet.

Of the grief and pinching in the shoulder.

THis cometh either by labouring and straining the Horse too young, or else by some great burthen; you shall perceive it by the narrowness of the breast, and by consuming flesh of the shoulders, inasmuch as the forepart of the shoulder bone will stick out, and be a great deal higher then the flesh. And if it be of long continuance, he will be very hollow in the brisket towards the armo-holes, and he will go wider beneath at the feet, then above at the knees. The cure, according to Martin, is thus. Give him a slit of an inch long with a sharp knife or rasor upon both sides an inch under the shoulder bones: then with a Swans quill put into the slit, blow up first the one shoulder, and then the other, as big as can possible, even up to the withers, and with your hand strike the winde equally into every place of the shoulders. And when they be full, then beat all the windy places with a good hasell wand, or with both your hands, clapping upon the places puffed up with wind, so fast as they can walk one after another over all the shoulder; then with a flat slice of iron, loosen the skin within from the flesh: that done, roll the two slits or cuts with two round rolls made of the upper leather of an old shooe, with a hole in the middest that the matter may issue forth, and let such rolls be three inches broad, and so put in as they may lie plain and flat within the cut; then make a charge to lay upon the same in this sort; Take of Pitch, and Rosen, of each one pound, of Tar half a pinte, boyl these things all together in a pot, and when it is somewhat cooled, take a stick with a woollen clout bound fast to the end thereof, and dip it into this charge, and cover and daub all the shoulder therewith. That done, clap thereunto a pound of Flox of such colour as the Horse is, or as nigh unto the same as may be, every other day cleanse both the wounds and rolls, and put them in again, continuing thus to do the space of fifteen dayes. Then take them out, and heal up the wounds with two tents of Flax dipt in Turpentine, and Hogs grease molten together, renewing the same every day once, untill the wounds be whole. But let the charge lie still, untill it fall away of it self, and let the Horse run to grasse untill he hath had a frost or two.

Of the wrinching of the Shoulder.

THis cometh sometime by a fall, and sometime by turning too suddenly in some uneven ground, or by rash running out of some door, or by some stripe of another Horse, or by some sudden stop in passing a Career: you shall perceive it in his going, by trailing his legs upon the ground, so close unto himself as he can possible. The cure, according to *Martin*, is thus: Let him bloud the quantity of three pintes, on the breast in the palat-vein, receiving the bloud in a pot; and thereunto put first a quart of strong Vinegar, and half a dozen broken Egges, shels and all, and so much Wheat-flowre as will thicken all that liquor. That done, put thereunto Bole Armony beaten into fine powder one pound, *Sanguis Draconis* two ounces, and mingle them all together, so as the flowre may not be perceived, and if it be too stiffe, you may make it more liquid or soft, with a little Vinegar. Then with your hand daub all the shoulder from the mane downward, and betwixt the fore-bowels, all against the hair, and let not the Horse depart out of that place, untill the charge be surely fastned unto the skin.

That done, carry him into the stable, and tie him up to the rack, and suffer him not to lie down all that day, and give him a little meat, dieting him moderately the space of fifteen days: during which time he may not stir out of his place, but only lie down, and every day once refresh the shoulder point with this charge, laying still new upon the old, and at the fifteen days end, lead him abroad to see how he goeth, and if he be somewhat amended, then let him rest without travelling, the space of one month; and that shall bring his shoulder to perfection. But if he be never the better for this that is done, then it shall be needful to rowel him with a leather rowel upon the shoulder-point, and to keep him rowelled the space of fifteen days, renewing the rowel, and cleansing the wound every other day; and then walk him up and down fair and softly, and turn him always on the contrary side to the fore; and when he goeth upright, pull out the rowel and heal the wound with a tent of flax dipt in Turpentine, and Hogs grease molten together. And if all this will not serve, then it shall be needful to draw him checker-wise with a hot iron over all the Shoulder-point; and also make him to draw in a plough every day two hours at the least, to settle his joynts for the space of three weeks or a month; and if any thing will help him, these two last remedies will help him, and make him to go upright again.

Of Splaiting in the Shoulder.

THis cometh by some dangerous sliding or slipping, whereby the shoulder parteth from the breast, and so leaves an open rift, not in the skin, but in the flesh and film next under the skin, and so he halteth and is not able to go; you shall perceive it by trailing his leg after him in his going. The cure according to *Martin* is thus: First put a pair of straight patterns on his fore-feet, keeping him still in the stable without disquieting him: Then take of *Dialthea* one pound, of Sallet Oyl one pinte, of Oyl-de-bays half a pound, of fresh Butter half a pound; melt all these things together in a Pipkin, and anoint the grieved place therewith, and also round about the inside of the shoulder, and within two or three days after, both that place and all the shoulder besides will swell. Then either prick him with a lancet or fleam, in all the swelling places, or else with some other sharp hot Iron, the head whereof would be an inch long, to the intent that the corruption may run out, and use to anoint it still with the same Ointment. But if you see that it will not go away, but swell still, and gather to a head, then lance it where the swelling doth gather most, and is soft under the finger, and then tent it with flax dipt in this Ointment: Take of Turpentine and of Hogs grease, of each two ounces, and melt them together, renewing the tent twice a day untill it be whole.

Of the Shoulder pight.

Blundevile.

THis is when the shoulder point or pitch of the shoulder is displaced, which grief is called of the *Italians*, *Spallato*; and it cometh by reason of some great fall forward, rush or strain. The signes be these: That shoulder-point will stick out further then his fellow, and the Horse will halt right down. The cure according to *Martin* is thus: First make him to swim in a deep water up and down a dozen turns, and that shall make the joynt to return into his place. Then make two tough pins of Ashen wood as much as your little finger, sharp at the points, each one five inches long: that done, slit the skin an inch above the point, and an inch beneath the point of the shoulder, and thrust in one of the pins from above downward, so as both ends may equally stick without the skin. And if the pin of wood will not easily pass through, you may make it way first with an Iron pin. That done, make other two holes crosse to the first holes, so as the other pin may crosse the first pin right in the midst with a right crosse, and the first pin would be somewhat flat in the midst, to the intent that the other being round, may pass the better without stop, and close the juster together. Then take a piece of a little line somewhat bigger then a whip-cord, and at one end make a loop, which being put over one of the pins ends, winde the rest of the line good and straight about the pins ends, so as it may lie betwixt the pins ends and the skin, and fasten the last end with a pack-needle and pack-thread unto the rest of the cord, so as it may not slip: and to do well, both the pricks and the cord would be first anointed with a little Hogs grease. Then bring him into the stable, and let him rest the

the space of nine days, but let him lie down as little as may be, and put on a pastern on the fore leg, so as it may be bound with a cord unto the foot of the manger, to keep that leg always whilest he standeth in the stable more forward then the other. And at the nine days end take out the pricks, and anoint the fore places with a little *Dialthea*, or with Hogs grease, and then turn him out to graze.

Of the Swelling of the Fore-legs after great labor.

Great labour and heat causeth humors to resort down into the legs making them swell. The cure whereof according to *Martin* is thus: Bathe them with buttered Beer, or else with this bath here following: Take of Mallows three handfuls, a Rose cake, Sage one handful: boil them together in a sufficient quantity of water, and when the Mallows be soft, put in half a pound of Butter, and half a pinte of Sallet Oyl, and then being somewhat warm, wash the swelling therewith every day once, the space of three or four days. And if the swelling will not go away with this, then take Wine lees, and Cumin, and boil them together, and put thereunto a little Wheat-flowre, and charge all the swelling therewith, and walk him often: and if it will not serve, then take up the great vein above the knee on the inside, suffering him not to bleed from above, but all from beneath.

Of the Foundering in the Fore-legs.

The cause of this grief is declared before in the Chapter of foundering in the body, whereas I shewed you, that if a Horse be foundered in the body, the humors will immediately resort down into his legs, as *Martin* saith, within the space of 24 hours, and then the Horse will go crouching all upon the hinder-legs, his fore-legs being so stiffe, as he is not able to bow them. The cure whereof, according to *Martin*, is in this sort: Garter each leg immediately one handful above the knee, with a list good and hard, and then walk him or chafe him, and so put him in a heat, and being somewhat warmed, let him bloud in both the breast veins, reserving the bloud to make a charge withall in this manner:

Take of that bloud two quarts, and of Wheat-flowre half a peck, and six Eggés, shels and all, of Bole Armony half a pound, of *Sanguis Draconis* half a quartern, and a quart of strong Vinegar; mingle them all together, and charge all his shoulders, breast, back, loyns, and fore-legs therewith, and then walk him upon some hard ground, suffering him not to stand still; and when the charge is dry, refresh it again. And having walked him three or four hours together, lead him into the stable, and give him a little warm water with ground Mault in it, and then a little Hay and provender, and then walk him again, either in the house, or else abroad, and continue thus the space of four days: and when all the charge is spent, cover him well with a housing cloth, and let him both stand and lie warm, and eat but little meat during the four days. But if you see that at four days end he mendeth not a whit, then it is a sign that the humor lies in the foot, for the which you must search with your Butter, paring all the soles of the fore-feet so thin as you shall see the water issue through the sole. That done, with your Butter, let him bloud at both the toes, and let him bleed well. Then stop the vein with a little Hogs grease, and then tack on the shooes, and Turpentine molten together, and laid upon a little Flax; and cram the place where you did let him bloud hard with Tow, to the intent it may be surely stoppt. Then fill both his feet with Hogs grease, and bran fried together in a stopping pan, so hot as is possible. And upon the stopping clap a piece of leather, or else two splents to keep the stopping. And immediately after this, take two Eggés, beat them in a dish, and put thereto Bole Armony, and Bean-flowre so much as will thicken the same, and mingle them well together, and make thereof two plaisters, such as may close each foot round about, somewhat above the cronet, and binde it fast with a list or roller, that it may not fall away, nor be removed for the space of three days, but let the sole be cleansed, and new stopped every day once, and the cronets to be removed every two days, continuing so to do untill it be whole. During which time let him rest unwalked, for fear of loosening his hoofs. But if you see that he begin to amend, you may walk him fair and softly once a day upon some soft ground, to exercise his legs and feet; and let him not eat much, nor drink cold water. But if this foundering break out above the hoof, which you shall perceive by the looseness of the coffin, above by the cronet; then when you pare the sole, you must take all the fore-part of the sole clean away, leaving the heels whole, to the intent the humors may have the freer passage downward, and then stop him, and dress him about the cronet as is before said.

Of Foundring.

Of all other sorances, foundering is soonest got, and hardlyest cured: yet if it may be perceived in twenty four hours, and taken in hand by this means hereafter prescribed, it shall be cured in other twenty and four hours: notwithstanding, the same receit hath cured a Horse that hath been foundered a year and more, but then it was longer in bringing it to passe. Foundering cometh when a Horse is heated, being in his grease and very fat, and taketh thereon a sudden cold which striketh down into his legs, and taketh away the use and feeling thereof. The sign to know it is the

Markham.

Horse

Horse cannot go, but will stand cripling with all his four legs together; if you offer to turn him, he will couch his buttocks to the ground, and some Horses have I seen sit on their buttocks to feed.

The cure is thus: Let him blood of his two breast veins, of his two shackle veins, and of his two veins above the cronets of his hinder hoofs; if the veins will bleed, take from them three pintes at least; if they will not bleed, then open his neck vein, and take so much from thence. Save the blood, and let one stand by and stir it as he bleeds, lest it grow into lumps; when he hath done bleeding, take as much Wheat flowre as will thicken the blood, the whites of twenty Egges, and three or four yolks; then take a good quantity of *Solearminack*, and a pinte of strong Vinegar, incorporate all these well together, and withal charge his back, neck, head, and ears; then take two long rags of cloth and dip in the same charge, and withal garter him so strait as may be above both his knees of his forelegs; then let his keeper take him out to some stony caufie, or high-way paved with stone, and there one following him with a cudgel, let him trot up and down for the space of an hour, or two, or more: that done, set him up and give him some meat; and for his drink, let him have a warm mash: some three or four hours after this, take off his garters, and set him in some pond of water up to the mid-side, and so let him stand for two hours, then take him out and set him up; the next day pull off his shooes, and pare his feet very thin, and let him blood both of his heels and toes; then set on his shooes again, and stop them with Hogs grease and bran boiling hot, and splint them up, and so turn him out to run, and he shall be sound.

Of the splent as well in the inside or outside of the knee, as other where in the Legs.

Blundevile.

THis sorance to any mans feeling, is a very gristle, sometime as big as a Walnut, and sometime no more then a Hasel-nut, which is called of the *Italians*, *Spinella*, and it cometh, as *Laurentius Russus* saith, by travelling the Horse too young, or by oppressing him with heaue burthens offending his tender sinews, and so causeth him to halt. It is easie to know, because it is apparent to the eye, and if you pinch it with your thumb and finger, the Horse will shrink up his leg.

The cure whereof, according to *Martin*, is in this sort: Wash it well in warm water, and shave off the hair, and lightly scarifie all the sore places with the point of a rasor, so as the blood may issue forth. Then take of *Cantharides* half a spoonful, and of *Euforbium* as much, beaten into fine powder, and mingle them together with a spoonful of *Oyl-de-bay*, and then melt them in a little pan, stirring them well together, so as that they may not boil over, and being so boiled hot, take two or three feathers, and anoint all the sore place therewith. That done, let not the Horse stir from the place where you so dresse him for one hour after, to the intent he shake not off the ointment. Then carry him fair and softly into the stable, and tie him as he may not reach with his head beneath the manger, for otherwise he will cover to bite away the smarting and pricking medicine, which if it should touch his lips, would quickly fetch off the skin. And also let him stand without litter all that day and night. The next day anoint the sore place with fresh butter, continuing so to do every day once for the space of nine dayes, for this shall allay the heat of the medicine, and cause both that, and the crust to fall away of it self, and therewith either clean take away the splent, or at least remove it out of the knee into the leg, and so much diminish it, as the Horse shall go right up, and halt no more through occasion thereof. *Laurentius Russus* would have the splent to be cured by firing it longst wise and overthwart. I have seen the splent to be clean taken away thus: first having clipt away the hair growing upon the hard place, you must beat it with a good big stick of Hasel almost a foot long, in which stick somewhat distant from the one end thereof would be set fast a sharp prick of a little bit of steel, to prick the sore place therewith, once or twice to make the blood issue out, never leaving to beat it first softly, and then harder and harder until it waxeth soft in every place to the feeling, and to thrust out the blood, partly with the stick, leaning on it with both your hands, and partly with your thumbs: that done, wind about the sore place with a piece of double red woollen cloth, holding it so as it may lie close thereunto; then sear it upon the cloth with the flat side of your searing iron, made hot, and not red-hot, but so as it may not burn through the cloth; that done, take away the cloth, and lay upon the sore a piece of Shoemakers wax, made like a little cake, so broad as is the sore place, and then sear that into his Legs with your searing iron, until the wax be throughly moulten, dried, and sunken into the sore: that done, sear another piece of wax in like manner into the sore, until it be dried up, and then you may travel your Horse immediately upon it if you will, for he will not halt no more.

Of the Splent.

Markham.

A Splent is a sorance of the least moment, unlesse it be on the knee, or else a through Splent, both which cannot be cured. A Splent is a spungy hard gristle or bone, growing fast on the inside of the shin-bone of a Horse, where a little making stark the sinews compels a Horse somewhat to stumble. The cures are divers, and thus they be; If the Splent be young, tender, and but new in

in breeding, then caſt the Horſe, and take a ſpoonful of that Oyl called *Petroleum*, and with that Oyl rub the Splent till you make it ſoft; then take a ſteam, ſuch as you let a Horſe bloud withal, and ſtrike the Splent in two or three places, then with your two thumbs thruſt it hard, and you ſhall ſee cruſh't matter and bloud come out, which is the very Splent; then ſet him up and let him reſt, or run at graſſe for a week or more. Others for a young Splent do thus; Take a Haſell ſtick and cut it ſquare, and therewithal beat the Splent till it be ſoft, then take a blew cloth and lay upon the Splent, and take a Taylors preſſing Iron made hot and rub it up and down upon the cloth over the Splent, and it ſhall take it clean away. But if the Splent be old and great, and grown to the perfection of hardneſs, then you muſt caſt the Horſe, and with a ſharp knife ſlit down the Splent; then take *Cantharides* and *Euforbium*, of each like quantity, and boyl them in Oyl-de-bay, and with that fill up the ſlit, and renew it for three dayes together, then take it away and anoint the place with Oyl-de-bay, Oyl of Roſes or Tar, until it be whole.

of a Malander.

A Malander is a kinde of Scab growing in the forme of lines, or ſtrokes, overthwart the bent of the knee, and hath long hairs with ſtubborn roots, like the bristles of a Bore, which corrupteth and cankereth the fleſh, like the roots of a childes ſcabbed head: and if it be great, it will make the Horſe to go ſtiſſe at the ſetting forth, and alſo to halt. This diſeaſe proceedeth ſometime of corrupt bloud, but moſt commonly for lack of clean keeping, and good rubbing. The cure, according to *Martin*, is thus; Firſt waſh it well with warm water, then ſhawe both hair and ſcab clean away, leaving nothing but the bare fleſh, whereunto lay this Plaſter: Take a ſpoonful of Sope, and as much of Lime, mingle them together, that it may be like paſte, and ſpread as much on a clout as will cover the ſore, and binde it faſt on with a liſt, renewing it every day once the ſpace of two or three dayes, and at the three dayes end, take away the Plaſter and anoint the ſore with Oyl of Roſes made luke-warm, and that ſhall fetch away the cruſt-ſcurfe, bred by means of the Plaſter, which being taken away, waſh the ſore place well every day once with his own ſtale, or elſe with mans urine, and then immediately ſtrow upon it the powder of burnt Oyſterſhells, continuing thus to do every day once until it be whole.

Another of the Malander.

A Malander is a peeviſh ſorance, and cometh of ill keeping, it is on the fore-legs, juſt on the inſide, at the bending of the knee, it will make a Horſe go ſtark, and ſtumble much. The cure is in this ſort; Caſt the Horſe, and with ſome inſtrument pluck off the dry ſcab that will ſtick thereon, and rub it till it bleed, then take and bind it thereto, for three days, in which ſpace you ſhall ſee a white aſker on the ſore, then take that off and anoint it with Oyl of Roſes or freſh Butter until it be thoroughly cured.

Of an upper Attaint or over-reach upon the back ſinew of the ſhanke, ſomewhat above the joynt.

The *Italians* call this ſorance *Atincho*, which is a painful ſwelling of the maſter ſinew, by means that the Horſe doth ſometimes over reach, and ſtrike that ſinew with the toe of his hinder-foot, which cauſeth him to halt. The ſignes be apparent by the ſwelling of the place, and by the Horſes halting. The cure, according to *Martin*, is thus; Waſh the place with warm water, and ſhawe all the hair ſo far as the ſwelling goeth, and ſcarifie every part of the ſore place lightly with the point of a Raſor, that the bloud may iſſue forth. Then take of *Cantharides* and of *Euforbium*, of each half an ounce, mingle them together with half a quartern of Sope, and with a ſlice ſpread ſome of this Ointment over all the ſore, ſuffering him to reſt there as you dreſſe him for one half hour after, and then you may carry him into the ſtable, and there let him ſtand without litter, and tyed as hath been ſaid before in the Chapter of the Spleen, and the next day dreſſe him with the ſame Ointment once again, even as you did before. And the third day anoint the place with freſh Butter, continuing ſo to do the ſpace of nine dayes, and at the nine dayes end, make him this bath; Take of Mallows three handfuls, a Roſe-cake, of Sage a handful; boyl them together in a ſufficient quantity of water. And when the Mallows be ſoft, put in half a pound of Butter, and half a pinte of Sallet Oyle; and then being ſomewhat warm, waſh the ſore place therewith every day once, the ſpace of three or four dayes.

Of a Nether taint.

Blundevile.

THis is a little bladder full of jelly, much like unto a Wind-gal, not apparent to the eye, but to the feeling, growing in the midst of the pastern, somewhat above the frush. It cometh by a strain, or else by some wrench, or by any other over-reach, and maketh the Horse to halt. The signes be these; The neather-joynt toward the fewter-lock will be hot in feeling, and somewhat swollen. The cure, according to *Martin*, is in this sort; Tie him above the joynt with a list somewhat hard, and that will cause the bladder to appear to the eye. Then lance it with a sharp pointed knife, and thrust out all the jelly. That done, lay unto it the white of an Egge, and a little Salt beaten together, and laid upon flax or tow, and bind it fast unto the fore, renewing it once a day the space of four or five dayes, during which time let him rest, and then you may boldly labour him.

Of an Attaint.

Markham.

AN Attaint is a grief that cometh by an over-reach, as clapping one leg upon another, or by some other Horses treading upon his heels. The cure is; Take a sharp knife and cut out the over-reach, that is, if it be never so deep like a hole, cut it plain and smooth, how broad so ever you make it, then wash it with Beer and Salt, and lay to it Hogs grease, Wax, Turpentine, and Rosen, of each like quantity, boyled and mingled together, and this will in few dayes heal him, be it never so fore.

Of an over-reach upon the heel.

THis is a cut, so as the skin hangs down at the heel, made with the toe of the hinder foot, and is apparent to the eye, and it will cause the Horse somewhat to halt. The cure whereof, according to *Martin*, is thus; Cut away the skin that hangeth down, and bind a little flax dipt in the white of an Egge mingled with a little Bole-armony, renewing it every day once the space of three or four days, and that will heal it.

Of false quarters.

THis is a rift sometime in the outside, but most commonly in the inside of the hoof, because the inside is ever the weaker part, which sides are commonly called quarters, and thereof this sorance taketh his name, and is called a false quarter; that is to say, a crased or unsound quarter, which name indeed is borrowed of the *Italians*, calling it in their tongue, *Falso quarto*. It cometh by evill shooing, and partly by evill paring. The signes be these: The Horse will for the most part halt, and the rift will bleed, and is apparent to the eye. The cure, according to *Martin*, is thus; If the Horse halt, then pull off the shooe, and cut so much away on that side of the shooe where the grief is, as the shooe being immediately put on again, the rift may be uncovered. Then open the rift with a Rosenet or drawer, and fill the rift with a roll of Toe dipt in Turpentine, Wax, and Sheeps sewer molten, renewing it every day once until it be whole. And the rift being closed in the top, draw him betwixt the hair and the hoof with a hot Iron overthwart that place, to the intent that the hoof may shoot all whole downward, and when the Horse goeth upright, ride him with no other shooe, until his hoof be thoroughly hardened again.

Of halting behind, and where the grief is.

Blundevile.

IF a Horse halt behind, the grief must either be in the hip, in the stifle, in the hough, in the ham, in the leg, in the neather joynt, pastern or foot. If he halt in the hip of a new hurt, the Horse will go sideling, and not follow so well with that leg as with the other; but if it be old hurt, the fore hip will shrink and be lower then the other. And is best seen, when he goeth up a hill, or upon the edge of some bank, so as the worst leg may go on the higher side, for then he will halt so much more, because it is painful unto him to go so unevenly wrinching his leg. If the grief be in the stifle, then the Horse in his going will cast the stifle joynt outward, and the bone on the inside will be far bigger then the other. If the grief be in the hough, then it is by means of some Spaven, or some other hurt apparent to the eye. And the like may be said of the ham, wherein may be seen the Selander, or such like apparent sorance, causing the Horse to halt. If the grief be either in the leg, pastern or foot, then you shall finde it by such signes as have been taught you before. And therefore let us now speak of those sorances that are properly incident to the hinder legs.

of the String-halt.

THe String-halt is a disease that maketh a Horse twitch up his leg suddenly, and so halt much, it cometh sometimes naturally, and sometimes casually, by means of some great cold whereby the sinews are strained: the best cure thereof, is to dig a pit in some dunghil, as deep as the Horse is high, and set the Horse in, and cover him with warm dung, and so let him stand the space of two hours, then take him out and make him clean, and then bathe him all over with Train-oyle made warm, and it will help him. Markham.

of a Horse that is hipped, or hurt in the hips.

THe Horse is said to be hipt, when the hip-bone is removed out of his right place, which grief is called of the *Italians*, *Mal del ancha*. It cometh most commonly by some great stripe or strain, slipping, sliding or falling. The signes be these: The Horse will halt, and in his going he will go sideling, and the fore hip will fall lower then the other, and the flesh in proceffe of time will consume clean away. And if it be suffered to run so long, it will never be restored unto his pristine estate. The best way, as *Martin* saith, to make him go upright, is to charge his hip and back with Pitch and Rosen molten together, and laid on warm, and then some flocks of his own colour to be clapped upon the same, and so let him run to grasse untill he go upright. But the fore hip will never rise again so high as the other. If the Horse be not hipped, but only hurt in the hip, and that newly, then first take of the Oyle de-bay, of *Dialthea*, of Nerval, of Swines grease, melt them all together, stirring them continually until they be thoroughly mingled together, and anoint the sore place against the hair with this Ointment every day once, the space of a fortnight, and make the Ointment to sink well into the flesh, by holding a hot broad bar over the place anointed, weaving your hand to and fro, until the Ointment be entred into the skin. And if at the fortnights end, you see that the Horse amendeth no whit for this, then slit a hole downward in his skin, and an inch beneath the hip-bone, making the hole so wide, as you may easily thrust in a rowel with your finger, and then with a little broad slice or iron, loosen the skin from the flesh above the bone, and round about the same, so broad as the rowel may lie flat and plain betwixt the skin and the flesh, which rowel would be made of soft Calves Leather, with a hole in the midst like a ring, having a threed tied unto it, to pull it out when you would cleanse the hole, and if the rowel be rolled about with flax fast tyed on, and anointed with the ointment under written, it will draw so much the more; and thrust in the rowel first double, and then spread it abroad with your finger. That done, tent it with a good long tent of flax or tow dipt in a little Turpentine and Hogs grease molten together and made warm, and cleanse the hole and the rowel every day once, and also renew the tent every day for the space of a fortnight. And before you dresse him, cause him every day to be led up and down a foot pace a quarter of an hour, to make the humors come down, and at the fortnights end pull out the rowel, and heal up the wound with the same salve, making the tent every day lesser and lesser until it be whole. And so soon as it is whole, draw with a hot Iron crosse lines, of eight or nine inches long, right over the hip-bone, so as the rowelled place may be in the very midst thereof, and burn him no deeper, but so as the skin may look yellow, and then charge all that place, and over all his buttocks with this charge: Take of Pitch a pound, of Rosen half a pound, of Tar half a pinte; boyl them together, and then being good and warm, spread it on with a clout tyed in a riven stick, and then clap on a few flocks of the Horses colour. And if it be in Summer, let the Horse run to grasse a while, for the more he travellet at his own will, the better it is for him.

of stifling, and hurts in the stiffe.

THe Horse is said to be stifled, when the stifling bone is removed from the place; but if it be not removed nor loosened, and yet the Horse halteth by means of some grief there, then we say that the Horse is hurt in the stiffe, and not stifled. The stiffe cometh by means of some blow, or some great strain, slipping or sliding. The signes be these; If he be stifled, the one bone will stick out farther then the other, and is apparent to the eye. *Martin* would have you to cure the stiffe in all points like unto the shoulder-pight, saving that the pins need not be so long, because the stifling place is not so broad as the shoulder, and standing in the stable, let him have a pastern with a Ring on his fore-leg, and thereunto fasten a cord, which cord must go about his neck, and let it be so much strained, as it may bring his fore leg more forward then the other to keep the bone from starting out. But if the Horse be but hurt in the stiffe with some stripe or strain, then the bone will not stand out, but perhaps the place may be swollen. The cure, according to *Martin*, is thus; First anoint the place with the Ointment mentioned before, every day once the space of a fortnight; and if the Horse amend not with this, then rowel him with a hearen rowel, or else with a quill, and let the neather hole be somewhat before the fore place, and cleanse the hole every day, by turning the rowel, continuing still to anoint the place with the Ointment aforesaid, and that will make him whole.

of foundering behind.

THis haps most commonly when a Horse is very fat, and hath his grease moulten within him, which is soon done with every little heat. You shall perceive it by his going, for he will be afraid to set his hinder-feet to the ground, and he will be so weak behind, as he will stand quivering and shaking, and covet alwayes to lie down. The cure, according to *Martin*, is thus: First garter him about the houghes, and then force him to go a while to put him in a heat, and being somewhat warm, let him bloud in the thigh veins, reserving of that bloud a pottle, to make him a charge in this sort; Put unto that bloud, of Wheat-flower and of Bean-flower, of each a quarter of a peck, of Bole-armony one pound, of *Sanguis Draconis* two ounces, six Egges, shels and all, of Turpentine half a pound, of Vinegar a quart; mingle all these things together, and therewith charge both his hinder-legs, his reins, and flanks, all against the hair. And if the Horse cannot dung, let him be raked, and give him this glyster; Take of Mallows three handfuls, and boyl them well in fair Water from a pottle to a quart; then strain it, and put thereunto half a pound of Butter, and of Sallet Oyl a quarter of a pinte, and having emptied his belly, give him also this drink to comfort him; Take of Malmesie a quart, and put thereunto a little Cinamon, Mace, and Pepper, beaten into fine powder, and of Oyl a quarter of a pinte, and give the Horse to drink of that luke-warm with a horn. That done, let him be walked up and down a good while together if he be able to go; if not, then tie him up to the rack, and let him be hanged with Canvas and Ropes, so as he may stand upon the ground with his feet: For the lesse he lyeth, the better; and pare his hinder-feet thin, untill the dew come out, and tacking on the shooes again, stop the hoofs with Bran and Hogs grease boyled together, and let both his feet, having this geer in it, be wrapped up in a cloth even to his pasterns, and there tie the clout fast. Let his diet be thin, and let him drink no cold water, and give him in Winter wet hay, and in Summer grasse.

Of the dry Spaven.

Blundevile.

THe dry Spaven, called of the *Italians*, *Spavano*, or *Sparavagno*; is a great hard knob as big as a Walnut growing in the inside of the hough, hard under the joynt, nigh unto the master vein, and causeth the Horse to hale, which sorance cometh by kinde, because the Horses Parents perhaps had the like disease at the time of his generation; and sometime by extreme labor and heat dissolving humors which do descend through the master vein, continually feeding that place with evil nutriment, and causeth that place to swell. Which swelling in continuance of time becometh so hard as a bone, and therefore is called of some the Bone Spaven. It needeth no signes or tokens to know it, because it is very much apparent to the eye, and therefore most Farriers do take it to be incurable.

Notwithstanding, *Martin* saith, that it may be made lesse with these remedies here following; Wash it with warm water, and shave off the hair so far as the swelling extendeth, and scarifie the place so as it may bleed; then take of *Cantharides* one dozen, of *Euforbium* half a spoonful, break them into powder, and boyl them together with a little Oyl-de-bay, and with two or three feathers bound together, put it boyling hot upon the sore, and let his tail be tyed up for wiping away the medicine; and then within half an hour after, set him up in the stable, and tie him so as he may not lie down all the night for fear of rubbing off the medicine, and the next day anoint it with fresh butter, continuing thus to do every day once the space of five or six days, and when the hair is grown again, draw the sore place with a hot Iron; then take another hot sharp Iron like a Bodkin, somewhat bowing at the point, and thrust it in at the neather end of the middle line, and so upward betwixt the skin and the flesh to the compasse of an inch and a half. And then tent it with a little Turpentine and Hogs grease moulten together and made warm, renewing it every day once the space of nine dayes. But remember first immediately after his burning to take up the master vein, suffering him to bleed a little from above, and tie up the upper end of the vein, and leave the neather end open, to the intent that he may bleed from beneath until it cease it self, and that shall diminish the Spaven, or else nothing will do it.

Of the Spaven, both bone and bloud.

Markham.

Doubtless a Spaven is an evill sorance, and causeth a Horse to halt principally in the beginning of his grief; it appeareth on the hinder-legs within, and against the joynt, and it will be a little swoln; and some Horses have a thorough Spaven, which appeareth both within and without. Of the Spaven there are two kindes, the one hard, and the other soft; that is, a Bone-Spaven, and a Bloud-Spaven: for the Bone-Spaven, I hold it hard to cure, and therefore the lesse necessary to be dealt withal, except very great occasion urge; and thus it may be holpen.

Cast the Horse, and with a hot Iron slit the flesh that covereth the Spaven, and then lay upon the Spaven, *Cantharides* and *Euforbium* boyled together in Oyl-de-bay, and anoint his legs round about,

about, either with the Oyl of Roſes, and with *Unguentum album camphiratum*. Dreſſe him thus for three dayes together, then afterward take it away, and for three dayes more lay unto it only upon flax and unfleck't Lime; then afterward dreſſe it with Tar until it be whole.

The *Cantharides* and *Euforbium*, will eat and kill the ſpongy bone, the Lime will bring it clean away, and the Tar will ſuck out the poiſon, and heal all up ſound: but this cure is dangerous, for if the inciſion be done by an unſkilful man, and he either by ignorance, or by the ſwarving of his hand, burn in twain the great vein that runs [croſſe] the Spaven, then the Horſe is ſpoiled.

Now for the blood Spaven that is eaſily helpt, for I have known divers which have been but newly beginning, helpt only by taking up the Spaven vein, and letting it bleed well beneath, and then ſtop the wound with Sage and Salt, but if it be a great blood Spaven, then with a ſharp knife, cut it as you burnt the bone Spaven, and take the Spaven away, then heal it up with Hogs greaſe and Turpentine only.

Of the wet Spaven, or through Spaven.

THis is a ſoft ſwelling growing on both ſides of the hough, and ſeems to go clean through the hough, and therefore may be called a through Spaven. But for the moſt part the ſwelling is on the inſide, becauſe it is continually fed of the maſter vein, and is greater then the ſwelling on the outſide. The *Italians* call this ſorance *Laierda*, or *Gierdone*, which ſeemeth to come of a more fluxible humour, and not ſo viſcous or ſlimy as the other Spaven doth, and therefore this waxeth not ſo hard, nor groweth to the nature of a bone as the other doth, and this is more curable then the other. It needs no ſignes, becauſe it is apparent to the eye, and eaſie to know by the deſcription thereof before made. The cure, according to *Martin*, is thus; Firſt waſh, ſhave, and ſcarifie the place as before; then take of *Cantharides* half an ounce, of *Euforbium* an ounce broken to powder, and Oyl-de-bay one ounce, mingle them well together cold, without boyling them, and dreſſe the ſore therewith two dayes together, and every day after, until the hair be grown again anoint it with freſh Butter. Then fire him both without and within, as before, without tenting him, and immediately take up the maſter vein, as before; and then for the ſpace of nine dayes, anoint him every day once with Butter, until the fired place begin to ſcale, and then waſh it with this bath; Take of Mallows three handfuls, of Sage one handful, and as much of red Nettles, boyl them in water until they be ſoft, and put thereunto a little freſh Butter, and bathe the place every day once for the ſpace of three or four dayes, and until the burning be whole, let the Horſe come in no wet.

Of the Selander.

THis is a kinde of Scab breeding in the ham, which is the bent of the hough, and is like in all points to the Malander, proceeding of like cauſes, and requireth like cure, and therefore reſort to the Malander.

Of the hough bony, or hard knob.

THis is a round ſwelling bony, like a *Paris* ball, growing upon the tip or elbow of the hough, and therefore I thought good to call it the hough-bony. This ſorance cometh of ſome ſtripe or bruife, and as *Martin* ſaith, is cured thus; Take a round hot iron ſomewhat ſharp at the end like a good big bodkin, and let it be ſomewhat bending at the point; then holing the ſore with your left hand, pulling it ſomewhat from the ſinews, pierce it with the iron, being firſt made red-hot, thruſting it beneath in the bottom, and ſo upward into the belly, to the intent that the ſame jelly may iſſue downward out at the hole, and having thruſt out all the jelly, tent the hole with a tent of Flax dipt in Turpentine, and Hogs greaſe molten together, and alſo anoint the outſide with Hogs greaſe made warm, renewing it every day once until the hole be ready to ſhut up, making the tent every day leſſer and leſſer; to the intent it may heal up.

Of the Curb.

THis is a long ſwelling beneath the Elbow of the hough, in the great ſinew behind, and cauſeth the Horſe to halt, after that he hath been a while laboured, and thereby ſomewhat heated. For the more the ſinew is ſtrained, the greater grief, which again by his reſt is eaſed. This cometh by bearing ſome great weight when the Horſe is young; or elſe by ſome ſtrain or wrinch, whereby the tender ſinews are grieved, or rather bowed (as *Ruffius* ſaith) whereof it is called in *Italian*, *Curba* a *Curvando*, that is to ſay of bowing, for anguiſh whereof it doth ſwell, which ſwelling is apparent to the eye, and maketh the Leg to ſhew bigger then the other. The cure, according to *Martin*, is thus; Take of Wine-lees a pinte, a porringer full of Wheat flowre, of Cumin half an ounce, and ſtir them well together, and being made warm, charge the ſore three or four

dayes; and when the smelling is almost gone, then draw it with a hot iron, and cover the burning with Pitch and Rosen molten together, and lay it on good and warm, and clap thereon some flocks of his own colour, or so nigh as may be gotten, and remove them not, until they fall away of themselves. And for the space of nine dayes let the Horse rest, and come in no wet.

Another of the Curb.

Markham.

A Curb is a forance that maketh a Horse to halt much, and it appears upon his hinder legs, straight behind upon the cumbrel place, and a little beneath the Spaven, and it will be swoln as big as half a Walnut. The cure followeth; Take a small cord and bind his legs hard above it, and beneath it, then beat it, and rub it with a heavy stick till it grow soft, then with a fleam strike it in three or four places, and with your thumbs crush out the filthy bruised matter, then loose the cord, and anoint it with Butter until it be whole.

Of the Pains.

Blundevile.

This is a kind of Scab, called in *Italian*, *Crappe*, which is full of fretting matterish water, and it breedeth in the pasterns for lack of clean keeping and good rubbing after the Horse hath been journeyed, by means whereof, the sand and dirt remaineth in the hair, fretteth the skin and flesh, and so breedeth a Scab. And therefore those Horses that have long hair, and are rough about the feet, are soonest troubled with this disease, if they be not the cleaner kept. The signes be these; His legs will be swollen and hot, and water will issue out of the Scab, which water is hot and fretting, as it will scald off the hair and breed Scabs, so far as it goeth. The cure, according to *Martin*, is thus; First wash well all the pasterns with Beer and Butter warmed together, and his legs being somewhat dried with a cloth: clip away all the hair, saving the fewter locks. Then take of Turpentine, of Hogs grease, of Hony, of each like quantity, mingle them together in a pot, and put thereto a little Bole-armony, the yolks of two Egges, and as much Wheat flowre as will thicken the things aforesaid, and make it plaister like, and for that cause it had need to be very well wrought and stirred together. Then with a slice strike some of the plaister upon such a piece of linnen cloth as will serve to go round about the pastern, and bind it fast on with a roller, renewing it once a day until it be whole, and let not the Horse be travelled nor stand wet.

Another of the Pains.

Markham.

Pains is a forance that cometh of hot ill humors of ill keeping; it appeareth in the Fetlocks, and will swell in the Winter time, and will send forth a sharp water: the hair will stare: and the cure is thus; Wash them every day twice or thrice with gunpowder and Vinegar, and they will be whole in one week at the most.

Of Mules or Kibed heels, called of the Italians, Mule.

This is a kind of Scab breeding behind, somewhat above the neather joynt, growing overthwart the fewter lock, which cometh most commonly for being bred in cold ground, or else for lack of good dressing, after that he hath been laboured in foul mire and dirty wayes, which dirt lying still in his legs, fretteth the skin, and maketh scabby rifts, which are soon bred, but not so soon gotten away. The anguish whereof maketh his legs somewhat to swell, and specially in Winter and Spring time, and then the Horse goeth very stiffly, and with great pain. The forance is apparent to the eye, and is cured, according to *Martin*, in this sort; Take a piece of linnen cloth, and with the salve recited in the last Chapter, make such a plaister as may cover all the sore place, and bind it fast on that it may not fall off, renewing it every day once until the sore leave running, and beginneth to wax dry, then wash it every day once with strong water, until it be clean dried up, but if this forance be but in breeding, and there is no raw flesh, then it shall suffice to anoint it with Sope two or three dayes, and at the three dayes end, to wash them with a little Beef broth or dish water.

Of Frettishng.

Blundevile.

Frettishng is a forance that cometh of riding a Horse till he sweat, and then to set him up without litter, where he taketh suddenly cold in his feet, and chiefly before; it appears under the heel in the heart of the foot; for it will grow dun, and wax white and crumbly like a Pomys, and also in time it will show, by the wrinkles on his hoof, and the hoof will grow thick and brickle, he will not be able to tread, on stones or hard ground, nor well to travel but stumble and fall. The cure is thus; Take and pare his feet so thin as may be, then rost two or three Egges in the Embers very hard, and being extreme hot taken out of fire, crush them in his foot, and then clap a piece of Leather thereon, and splint it that the Egges may not fall out, and so let him run and he will be found.

Of sorances or griefs that be common to all Fore-feet.

Hitherto we have declared unto you the causes, signes and cure of all such griefs as are properly incident, either to the fore-legs, or hinder-legs: now therefore we speak of those griefs that be common to them both, and first of Windgals.

Of Windgals.

The Windgal called of the *Italians*, *Galla*; is a bladder full of corrupt jelly, whereof some be great, and some be small, and do grow on each side of the joynt, and is so painful, and especially in Summer season, when the weather is hot and the ways hard, as the Horse is not able to travel, but halteth down right. They come for the most part through extreme labour and heat, whereby the humors being dissolved, do flow and resort into the hollow places about the neather joynts, and there be congealed and covered with a thin skin like a bladder. They be apparent to the eye, and therefore need no other signes to know them. The cure whereof according to *Martin* is thus: Wash them with water, and shave off the hair, scarifie them with the point of a razor, and dresse them with Cantharides in the self same manner as the splent in the knee was taught before, and anoint them afterward with Butter untill the skin be whole. And if this will not heal it, then draw them with a hot Iron like a ragged staffe. That done, slit the middle line which passeth right down through the windgal with a sharp knife, beginning beneath, and so upward the length of half an inch, to the intent you may thrust the jelly out at that hole; then lay unto it a little Pitch and Rozen molten together, and made luke-warm, and put a few flocks on it, and that will heal him. And you may dry up the Windgal in such manner as here followeth: First chop off the hair so far as the Windgal extendeth, and having stricken it with a fleam, thrust out the jelly with your finger. Then take a piece of red wollen cloth and clap it to the place, and with a hot broad searing Iron sear it, so as the Iron may not burn through the cloth, which is done to dry up the humors.

Blundevile.

Then having taken away the cloth, lay unto the place a piece of Shoemakers wax made like a flat cake, about the breadth of a testorn; and with your Iron not made over hot, streak softly upon it to and fro, untill the said wax be thoroughly melted into the fore. Whereupon lay a few flocks, and let him go. Which flocks will afterward fall away of their own accord.

Of Windgals.

Wingals are easie to cure, they be little swellings like blebs or bladders, on either side the joynt next unto the fewter-locks, as well before as behinde, and they come through the occasion of great travel, in hard, gravelly, or sandy ways. The cure is: Take Pitch, Rozen, and Mastick, of each like quantity, melt them together, and with a stick lay it round about the Horses legs, and whilst it is hot lay flocks thereon: the nature of this plaister, is never to come away whilst there is any Windgal on the Horses legs; but when they are dried up, then it will fall away of it self.

Markham.

Of Wrinching the neather joynt.

This cometh many times by treading awry in some Cart root or otherwise. The signes be these: The joynt will be swollen and sore, and the Horse will halt. The cure whereof according to *Martin* is thus: Take of *Dialthea* half a pound, and as much of Nerval; mingle them together, and anoint the sore place therewith, chafing it well with both your hands, that the Ointment may enter, continuing so to do every day once, untill the Ointment be all spent, and let the Horse rest. But if this will not prevail, then wash it with warm water and shave away all the hair saving the fewter-lock. Scarifie it, and lay to it Cantharides, and heal it as you do each splent in the knee.

Of Enterfering.

Because Enterfering is to be holpen by shooing, we purpose not to speak of it, untill we come to talk of the order of paring and shooing all manner of hoofs.

Another of Enterfering.

Enterfering is a grief that cometh sometimes by ill shooing, and sometimes naturally, when a Horse trots so narrow that he hews one leg upon another, it appeareth both before and behinde, between the feet against the fer-locks, and there is no remedy but shooing him with shooes made thin and flat on the outside, and marrow and thick within.

Of

Of the Shakel-gall.

IF a Horſe be galled in the paſterns, with ſhakel, lock paſtern, or halter, anoint the fore place with a little Honey and Verdigreafe boyled together, untill it look red, which is a good Ointment for all gallings on the withers, and immediately ſtrow upon the Ointment, being firſt laid upon the leg, a little chopt flax or tow, and that will ſtick faſt, continuing ſo to do every day once untill it be whole.

Of hurts in the Legs, that cometh by caſting in the halter or collar.

Blundevile.

IT chanceth many times, that a Horſe having ſome itch under his ears, is deſirous to ſcratch the ſame with his hinder-foot, which whileſt he reacheth to and fro, doth faſten in the collar or halter, wherewith the more that he ſtriveth the more he galleth his legs; and many times it chanceth for that he is tyed ſo long, by means whereof being laid, and the halter ſlack about his feet, riſing perhaps or turning he ſnarleth himſelf ſo as he is not able to get up, but hangeth either by the neck or legs, which ſometime are galled even to the hard bone.

Ruffus calleth ſuch kind of galling *Capistratura*, which he was wont to heal with this Ointment here following, praiſing it to be excellent good for the cratches, or any ſcab, bruife, or wound: Take of Oyl Olive one ounce, of Turpentine two or three ounces; melt them together over the fire, and then put thereunto a little Wax, and work them well together, and anoint the fore place therewith. *Martin* ſaith, it is good to anoint the fore place with the white of an Egge and Saller Oyl beaten together; and when it cometh to a ſcab, anoint it with Butter being molten, untill it look brown.

Of the Cratches, or Rats tails, called of the Italians, *Crepaccie*.

THIS is a kinde of long ſcabby riſts growing right up and down in the hinder part, from the ſewer-lock up to the curb, and cometh for lack of clean keeping, and is eaſily ſeen if you take up the Horſes foot, and liſt up the hair. The cure according to *Martin* is thus: Take of Turpentine half a pound, of Honey a pinte, of Hogs greaſe a quartern, and three yolks of Egges, and of Bole-armony a quartern, beaten into fine powder, of Bean-flowre half a pinte; mingle all theſe well together, and make a ſalve thereof, and with your finger anoint all the fore places, ſheading the hair as you go, to the intent you may the eaſier finde them, and alſo to make the ſalve enter into the ſkin, and let the Horſe come in no wet, untill he be whole.

Of the Scratches.

Markham.

SCRATCHES will cauſe a Horſe to halt fore, and they come only by naughty keeping, and they appear in the paſterns under the Fet-locks; as if this ſkin were cut over-thwart, that a man may lay in a Wheat-ſtraw. The cure is thus: Binde unto them, (the hair being cut clean away) black Sope and Lime kned together, for three days, then lay that by, and anoint the place with Butter; and heal the ſore with Bores greaſe and Tar mixt well together.

Of the Ring-bone.

THIS is a hard griſtle growing upon the cronet, and ſometime goeth round about the cronet, and is called in *Italian*, *Soproſſo*. *Laurentius Ruſſius* ſaith, that it may grow in any other place of the leg; but then we call it not a Ring-bone, but a knot or knob. It cometh at the firſt either by ſome blow of another Horſe, or by ſtriking his one foot againſt ſome ſtub, or ſtone, or ſuch like casualty. The pain whereof breedeth a viſcous and ſlimy humor, which reſorting to the bones, that are of their own nature cold and dry, waxeth hard, cleaveth to ſome bone, and in proceſs of time becometh a bone. The ſignes be theſe: The Horſe will halt, and the hard ſwelling is apparent to the eye, being higher then any place of the cronet. The cure according to *Martin* is thus: Firſt waſh it well with warm water, and ſhawe away all the hair, ſo as the ſore place may be all diſcovered. Then ſcarifie it lightly with the point of a razor, ſo as the blood may iſſue forth. Then if the ſore be broad, take of *Euforbium* one ounce, of *Cantharides* half an ounce, broken into fine powder, and of Oyl-de-bay one ounce; and if the ſore be but little, the one half of this may ſerve: Boyl theſe things together, ſtirring them continually, leſt it run over; and with two or three feathers, lay it boiling hot unto the ſore, and let not the Horſe ſtir from that place for half an hour after, then carry him into the ſtable, both uſing and curing him for the ſpace of nine days, in ſuch order as hath been ſaid before in the chapter of the ſplent. But when the hair beginneth to grow again, then fire the ſore place with right lines from the paſtern down to the coffin of the hoof; and let the edge of the drawing Iron be as thick as the back of a meat-knife, and burn him ſo deep as the ſkin may look yellow: that done, cover the burning with Pitch and Rozen molten together, and clap thereon ſlocks of the Horſes own colour, or ſomewhat nigh the ſame, and about three days after lay again ſome of the laſt mentioned plaſter, or Ointment; and alſo new

new flocks upon the old, and there let them remain, until they fall away of themselves.

But if these Ring-bones, or knobs, breed in any other place, then in the Cronet, you shall cure them as is before said, without firing them.

Of the Ring-bone.

THe Ring-bone is an ill disease, and appeareth before on the foot above the hoof, as well before *Markham.* as behinde, and will be swoln three inches broad, and a quarter of an inch or more of height, and the hair will stare and wax thin, and will make a Horse halt much. The cure is: Cast the Horse, and with an Iron made flat and thin, burn away that gristle which annoys him; then take Wax, Turpentine, Rozen, Tar, and Hogs-grease, of each like quantity, mingle them together Plaister-wise, and with it cure the sore: This Plaister will also cure any other wound or ulcer whatsoever.

Of the Crown-scab.

THis is a kinde of filthy and stinking Scab, breeding round about the feet upon the Cronets, and *Blunderb.* is an elvish and painful disease, called in *Italian, Crisaria.* It seemeth to come by means that the Horse hath been bred in some cold wet soil, striking corrupt humors up to his feet; and therefore the Horse that hath this grief is worse troubled in Winter then in Summer. The signes be these: The hair of the Cronets will be thin and staring like bristles, and the Cronets will be always mattering, and run on a water. The cure according to *Martin* is thus: Take of Sops, of Hogs-grease, of each half a pound, of Bole-armony a little, of Turpentine a quartern; and mingle them all together, and make a Plaister, and binde it fast on, renewing it every day once, until it leave running, and then wash it with strong Vinegar, being luke-warm, every day once, until the sore be clean dryed up, and let him come in no wet until it be whole.

Of hurts upon the Cronet crossing one foot over another, which the Italians call Supraposte.

Martin saith, wash it well with white Wine, or with a little stale, and then lay unto it the white of an Egge, mingled with a little Chimny soot and Salt, and that will dry it up in three or four days, if it be renewed every day once.

Of the Quitter-bone.

THis is a hard round swelling upon the Cronet, betwixt the heel and the quarter, and groweth most commonly on the inside of the foot, and is commonly called of the *Italians, Setula* or *Setula.* It cometh by means of gravel gathered underneath the shooe, which fretteth the heel, or else by the cloying or pricking of some nail evil driven, the anguish whereof looseth the gristle, and so breedeth evil humors, whereof the Quitter-bone springeth. The signes be these: The Horse will halt, and the swelling is apparent to the eye, which in four or five days coming to a head, will break out with matter at a little deep hole like a *Fistula.* The cure according to *Martin* is thus: First, burn about the quitter-bone with a hot Iron, in manner of half a circle, and then with the same Iron draw another right strike through the midst thereof. Then take of Arsenick the quantity of a Bean beaten into fine powder, and put it into the hole, thrusting it down to the bottom with a quill, and stop the mouth of the hole with a little tow, and binde it so fast with a cloth, and cord, as the Horse may not come at it with his mouth, and so let it rest for that day. And the next day, if you see that the sore looketh black within, then it is a signe that the Arsenick hath wrought well, and done his part. Then to allay the burning thereof, tent the hole with flax dipt in Hogs-grease, and Turpentine, molten and mingled together, and cover the tent with a bolster of Tow dipt also in the Ointment aforesaid, continuing so to do every day once, until you have gotten out the core. Then shall you see whether the loose gristle in the bottom be uncovered or not; and if it be uncovered, then feel with your finger, or with a quill, whether you be nigh it or not. And if you be, then raise the gristle with a little crooked instrument, and pull it clean out with a pair of small nippers, meet for the purpose. That done, tent it again with a full tent dipt in the aforesaid Ointment, to assuage the anguish of the last dressing, and stop it hard, to the intent that the hole may not shrink together, or close up; and the next day take out the tent, and tent it a new with the Salve or Ointment taught in the Chapter of the Shaker-gall, renewing it every day once until it be whole, keeping always the mouth of the sore as open as you may, to the intent that it heal not up too fast; and let not the Horse be in any wet, nor travel, until he be perfectly whole.

Of the Quitter-bone.

Quitter-bone is a round hard swelling upon the Cronet of the hoof, betwixt the hoof and the *Markham.* quarter, and for the most part groweth on the inside of the foot: the Original effect thereof is the fretting of gravel underneath the shooe, which bruisseth the heel; or else by means of some stub,

stub, or the pricking of some nail, through the pain whereof the gristle is loosened, breeding evil humors, which be indeed the ground of the Quitter-bone: it is to be known by the Horses halting, and by the apparent swelling to the eye of that part, which in three or four days will grow unto a head and break, evacuating great abundance of filthy matter at a little hole. The cure is thus: Take a hot Iron, made in fashion of a knife, and with it burn out the flesh, in compass of a Moon, till you come to feel the gristle, then burn it out too: Then take Verdigrease, fresh Butter, and Tar, molten together, and dip fine Tow therein, stop up the hole, then lay thereon a Sear-cloth of Deer-sewer and Wax, and so let him rest for the first day: the next day, take of *Mel rosatum*, Oyl of Roses, Wax, and Turpentine, of each like quantity, infuse them all on the fire together; and with the Salve dress the sore morning and evening, till it be whole. But if you finde any proud flesh to grow, then forget not to lay thereon some red Lead, or Verdigrease: and withall have an especial regard, that the upper part of the wound heal not faster then the bottom, for fear of Fistulating.

Of the Gravelling.

Blundevile.

THis is a fretting under the foot, most commonly in the inside, and sometime in the outside, and sometime in both sides together of the heel. It cometh by means of little gravel stones getting betwixt the hoof, or calking, or sponge of the shooe, which by continual labour and treading of the Horse, doth eat into the quick, and the rather, if his heel be soft and weak, or that the shooe do lie flat to his foot, so as the gravel being once gotten in, cannot get out. The signes be these: The Horse will halt, and covet to tread all upon the toe, to favour his heel. The cure according to *Martin* is thus: First pare the hoof, and get out the gravel with a corner, or drawer, leaving none behinde, for if you do, it will breed to a Quitter-bone. That done, stop him with Turpentine and Hogs-grease molten together, and laid on with tow or flax, and then clap on the shooe to keep in the stopping, renewing it every day once until it be whole. And suffer the Horse to come in no wet, until he be thoroughly whole. If a gravelling be not well stopt to keep down the flesh, it will rise higher then the hoof; and not only require more business in bolstering it, but also put the Horse to more pain.

Of Gravelling.

Markham.

Gravelling is a hurt will make a Horse to halt, and cometh of gravel and little stones, that goeth between the shooe and the heart of the foot. The cure is: Take off the shooe, and let him be well pared; then set on the shooe again, and stop it with Pitch, Rozen, and Tallow, and this shall help.

Of Surbating.

THis is a beating of the hoof against the ground, called of the *Italians*, *Sobatitura*; it cometh sometime by means of evil shooing, lying too flat to his foot; or by going long bare-foot, and sometime by the hardness of the ground, and high lifting of the Horse. And those Horses that be flat-footed, the coffins whereof are tender and weak, are most commonly subject to this forance. The signes be these: the Horse will halt on both his fore-legs, and go stiffely and creeping, as though he were half foundered. The cure according to *Martin* is thus: Take off his shooes, pare him as little as may be; and if the shooes be not easie, that is to say, long, large, and hollow enough, then make them so, and then tack them on again with four or five nails. That done, stop his feet with Bran, and Hogs-grease boyled together, so hot as may be; and also cover all the coffin round about with the same, binding all in together with a cloth, and a list fastened about the joynt, renewing it every day once, until it be whole, and give the Horse during that while warm water; and let him stand dry and warm, and not be travelled until he be whole.

Of a Prick in the Sole of the Foot, by treading on a nail, or any other sharp thing that doth enter into the Foot.

Blundevile.

THe signes be these: If a man be on his back when he treadeth on any such thing, he shall feel that the Horse will lift up his foot, and covet to stand still to have help. And if it chance at any other time, the halting of the Horse, and the hurt it self will shew. The cure according to *Martin* is thus: Pull off the shooe, and pare the foot; and with a drawer uncover the hole, making the mouth so broad as a two penny piece, then tack on the shooe again. That done, stop it, by pouring into the hole Turpentine and Hogs-grease molten together, and lay some flax, or tow upon it; and then stop all the Horses foot with Horse-dung, or rather with Cow-dung, if you can get it; and splent it either with sticks, or else with an old shooe-sole, so as the stopping may abide in, renewing it every day once until it be whole, and let the Horse come in no wet. If this be not well cured, or looked to in time, it will cause the hoof to break above, and to loosen round about, and perhaps to fall clean away. But if you see that it begins to break above, then make a greater

issue

iſſue beneath by opening the hole wider, and taking more of the ſole away, that the fleſh may have the more liberty. Then take of Bole-armony half a quartern, Bean-flowre, and two Egges. Beat them, and mingle them well together, and make a plaſter thereof upon Tow; and lay it round about the Cronet, binde it faſt on, and ſo let it remain the ſpace of two days, and then renew it again, not failing ſo to do every two days untill you ſee it wax hard and firm above. For this Plaſter being reſtrictive, will force the humors to reſort all downward, which muſt be drawn out with Turpentine and Hogs-greaſe as before, until it leave mattering, and then dry it up with burnt Allum beaten to powder, and ſtrowed upon it, with a little flax laid again upon that, continuing ſo to do every day once, until it be hardened; and let not the Horſe come in any wet, until he be whole.

Of Accloyd or Prickt.

Accloyd is a hurt that cometh of ſhooring, when a Smith driveth a nail in the quick, which will make him to halt. And the cure is; to take off the ſhooe, and to cut the hoof away, to lay the ſore bare: then lay to it Wax, Turpentine, and Deer-ſewer, which will heal it. Mark Lath.

Of the Fig.

IF a Horſe having received any hurt, as before is ſaid, by nail, bone, ſplent, or ſtone, or otherwiſe in the ſole of his foot, and not be well dreſſed and perfectly cured, there will grow in that place a certain ſuperfluous piece of fleſh, like a Fig; and it will have little grains in it like a fig, and therefore is rightly called of the *Italians*, *Unfico*, that is to ſay, a fig. The cure whereof according to *Martin* is thus: Cut it clean away with a hot Iron, and keep the fleſh down with Turpentine, Hogs-greeſe, and a little Wax laid on with Tow, or Flax, and ſtop the hole hard, that the fleſh riſe not, renewing it once a day until it be whole.

Of a Retreat.

This is the pricking of a nail, not well driven in the ſhooring, and therefore pulled out again by the Smith, and is called of the *Italians*, *Tyatta meſſa*. The cauſe of the pricking may be partly the raſh driving of the Smith, and partly the weakneſs of the nail, or the hollowneſs of the nail in the ſhank. For if it be too weak, the point many times bendeth awry into the quick when it ſhould go right forth. It flatteth and ſhivereth in the driving into two parts, whereof one part raſeth the quick in pulling out, or elſe perhaps breaketh clean aſunder, and ſo remaineth ſtill behinde, and this kinde of pricking is worſe than the cloying, becauſe it will ranckle worſe, by reaſon of the flaw of Iron remaining in the fleſh. The ſignes be theſe: If the Smith that driveth ſuch a nail be ſo lewd, as he will not look unto it before the Horſe depart, then there is no way to know it, but by the halting of the Horſe, and ſearching the hoof firſt with a hammer by knocking upon every clinging. For when you knock upon that nail, where the grief is, the Horſe will ſhrink up his foot. And if that will not ſerve, then pinch or gripe the hoof with a pair of pinſons round about, until you have found the place grieved. The cure according to *Martin* is thus: Firſt, pull off the ſhooe, and then open the place grieved with a Butter or Drawer, ſo as you may perceive by feeling or ſeeing, whether there be any piece of nail or not; if there be, to pull it out, and to ſtop the hole with Turpentine, Wax, and Sheeps-ſewer molten together, and ſo poured hot into the hole, and then lay a little Tow upon it, and clap on the ſhooe again, renewing it thus every day, until it be whole, during which time, let not the Horſe come in any wet, and it muſt be ſo ſtopped, though it be but prickt without any piece of nail remaining. And if for lack of looking to it in time, this retreat cauſe the hoof to break above, then cure it with the Plaſter reſtrictive in ſuch order as is mentioned in the laſt place ſaving one before this.

Of Cloying.

Cloying is the pricking of a whole nail, called of the *Italians*, *Incbiodatura*; paſſing through the quick, and remaining ſtill in the ſame, and is clenched as other nails be, and ſo cauſeth the Horſe to halt. The grieved place is known, by ſearching with the hammer and pinſons, as is before ſaid: If the Horſe halt immediately, then pull off his ſhooe, and open the hole, until it begin to bleed; and ſtop it with the Ointment aforeſaid, in the ſame page of the Retreat, and clap on the ſhooe again; and the hoof may be ſo good, and the harm ſo little, as you may travel him immediately upon it, but if he be ranckled, then renew the ſtopping every day once, let him come in no wet, until it be whole.

of loosening the Hoof.

THis is a parting of the hoof from the coronet, called of the *Italians*, *Dissolutura del unghia*, which if it be round about, it cometh by means of foundering; if in part, then by the anguish caused by the pricking of the canel nail, piercing the sole of the foot, or by some Quitter-bone, Retreat, Gravelling, or Cloying, or such like thing: The signes be these: When it is loosened by foundering, then it will break first in the fore-part of the Coronet, right against the toes, because the humor doth cover always to descend towards the toe. Again, when the pricking of a canel nail, or such like cankered thing is the cause, then the hoof will loosen round about, equally even at the first. But when it proceedeth of any of the other hurts last mentioned: then the hoof will break right above the place that is offended, and most commonly will proceed no further. The cure according to *Martin* is thus: First, of which soever of these causes it proceeds, be sure to open the hoof in the sole of the foot, so as the humor may have free passage downward, and then restrain it above with the Plaister restrictive before mentioned, and in such order as is there written, and also heal up the wound, as is before taught in the Chapter of a prick in the sole of the foot.

Of casting the Hoof.

THis is when the coffin falleth clean away from the foot, which cometh by such causes as were last rehearsed, and is so apparent to the eye, as it needeth no signes to know it. The cure according to *Martin* is thus: Take of Turpentine one pound, of Tar half a pinte, of unwrought Wax half a pinte: Boil all these things together, and stir them continually until they be thoroughly mingled, and compact together. Then make a Boot of Leather with a good strong sole meet for the Horses feet, to be laced or buckled about the pastern; and dress his foot with the Salve aforesaid laid upon the Flax or Tow, and bolster or stuffe his foot with soft Flax, so as the Boot may grieve him no manner of way, renewing it every day once until it be whole, and then put him to graze.

Of the Hoof-bound.

Blundevile.

THis is a shrinking of all the whole hoof. It cometh by drought, for the hoofs perhaps are kept too dry, when the Horse standeth in the stable, and sometime by means of heat, or of over-straight shooing. The *Italians* call the Horse thus grieved *Incastellado*. The signes be these: The Horse will halt, and the hoofs will be hot; and if you knock on them with a hammer, they will sound hollow like an empty bottle, and if both the feet be not hoof-bound, the sore foot will be lesser than the other indeed, and appear so to the eye. The cure according to *Martin* is thus: Pull off the shooes, and shooe him with half Moon shooes called *Lunette*; the order and shape whereof you shall finde among the Farriers, and rase both the quarters of the hoof with a drawer, from the coronet unto the sole of the foot, so deep as you shall see the dew it self come forth. And if you make two rases on each side, it shall be so much the better, and enlarge the hoof the more. That done, anoint all the hoof about, next unto the coronet round about, with the Ointment prescribed before in the Chapter of casting the hoof, continuing so to do every day once until he begin to amend for the space of a month; and if he goeth not well at the months end, then take off the half shooes, and pare all the soles, and thrushes, and all so thin as you may see the dew come forth, and tack on a whole shooe; and stop all the foot within with Hogs-grease and Bran boiled together, and laid hot to the foot; renewing it dayly once the space of nine days, to the intent the sole may rise. But if this will do no good; then take away the sole clean, and clap on a whole shooe, and stop the foot with Nettles and Salt brayed together, renewing it once a day, but not over hard, to the intent the sole may have liberty to rise, and being grown again, let him be shod with the lunets, and sent to graze.

Of the running Frush.

THe Frush is the tenderest part of the hoof towards the heel, called of the *Italians*, *Fettone*, and because it is fashioned like a forked head, the *French* men call it *Furebette*, which word our Farriers, either for not knowing rightly how to pronounce it; or else perhaps for easiness sake of pronuntiation, do make it a monosyllable, and pronounce it the Frush; in which Frush breedeth many times a rottenness or corruption proceeding of humors that cometh out of the leg, whereby the leg is kept clean from the Windgals, and all other humors and swellings by means that the humors have passage that way. Notwithstanding the discommodity of the sorance is greater then the commodity, because it maketh the Horses feet so weak and tender, as he is not able to tread upon any hard ground. The signes be these:

The Horse will halt, and specially when the passage of the humor is stopt with any gravel gathered in the Frush, and not being stopt it will continually run, the savour whereof will be so strong, as a man is not able to abide it, and in some places it will look raw. The cure according to

to *Martin* is thus. First take off the shooe and pare away all the corrupt places, and make them raw, so as you may see the water issue out of the raw places, then tack on the shooe again, being first made wide and large enough. That done, take of Soot one handfull, of Salt as much; bruise them well together in a dish, and put thereunto the white of three Egges, and temper them together, and with a little Tow dipt therein, stop all the foot, and especially the Frush, and splint it so as it may not fall out, renewing it once a day the space of seven days, and then he will be whole. During which time let the Horse rest, and come in no wet, at the seven days end leave stopping him; and ride him abroad, and always when he cometh in, let his fore foot be clean washed, that no gravel remain therein, without doing any more unto him.

Of the Frush.

THe Frush is the tenderest part of the sole of the foot, which by humors distilling many times down from the legs, occasion inflammations in that part, which may easily be perceived by the impostumation of the same. The cure is thus: First having taken off the shooe, pare away all the corrupted and naughty matter, until the fore look raw, then nail on a hollow shooe made for the same purpose; and take of soot a handfull, of the juyce of House-leek and of Cream, with the white of an Egge or two, as much as will thicken the same: with this stop up the fore, and splint it, so as it may not fall out, renewing it until it be whole: but during the cure, have regard that the fore foot touch not any wet, for that is very much hurtful.

Markham.

Of diseases or griefs indifferently incident to any part of the body, but first of the Leprosie, or universal Manginess, called of the old Writers Elephantia.

THis is a cankered Manginess, spreading over all the body, which cometh of abundance of melancholy, corrupt and filthy blood. The signes be these: The Horse will be all mangy and scurvy, full of scabs, and raw plots about the neck, and evil favoured to look on, and always rubbing and scratching. The cure according to *Martin* is thus: Let him blood the first day in the one side of the neck, and within two days after that, in the flank veins; and last of all, in the vein under the tail. Then wash all the sore places with Salt brine, and rubbing them hard with a wispe of straw hard twisted, so as they may bleed well, and be all raw. That done, anoint the place with this Ointment: Take of Quick-silver one ounce, of Hogs-grease one pound, of Brimstone beaten into powder a quartern, of Rape Oyl a pinte; mingle these things well together, until the Quick-silver be thoroughly incorporated with the rest; and having anointed all the raw places with this Ointment, make it to sink into the flesh, by holding and weaving up and down over it a hot broad bar of Iron, and then touch him no more again the space of two or three days; during which time, if you see that he rubbeth still in any place, then rub that place again with an old Horse-combe, to make it raw, and anoint it with fresh Ointment. But if all this will not help, then with a hot Iron, and blunt at the point, so big as a mans little finger; burn all the mangy places, making round holes, passing only through the skin, and no further. For which intent it shall be needful to pull the skin first from the flesh, with your left hand, holding it still until you have thrust the hot Iron through it, and let every hole be a span off one from another, and if need be, you may anoint those holes with a little Sope, and let the Horse be thin dieted, during his curing time.

Of the Farcin, called in Italian of some Il verme, and of some Farcina.

THis kinde of creeping Ulcer groweth in knots, following a long some vein, and it proceedeth of corrupt blood ingendered in the body, or else of some outward hurt, as of spur-galling, or the biting of some other Horse; or of biting of ticks, or of Hogs lice, or such like casualties: Or if it be in the legs, it may come by interfering. It is easily known, partly by the former description, and also it is apparent to the eye. The cure according to *Martin* is thus: Let him blood in that vein where it cometh, as nigh the fore place as may be, and let him bleed well; then fire every knot one by one, taking the knot in your left hand, and pulling it so hard as you can from his body, to the intent you may better pierce the knot, with a blunt hot Iron, of the bigness of a mans fore-finger, without doing the body any hurt, and let out the matter, leaving none unburn'd, be it little or much. That done, anoint every knot so burned with Hogs-grease warmed every day once, until the coars be ready to fall away: and in the mean time prepare a good quantity of old Urine, and when you see the coars ready to fall, boil the Urine, and put therein a little Copperas and Salt, and a few strong Nettles, and with that water being warm, wash out all the coars, and the corruption.

That done, fill every hole immediately with the powder of fleck't lime, continuing thus to do every day once, until the holes be closed up; and if any be more ranker then other, fill those with Verdigrease; and during this cure let the Horse be thinly dieted, that is to say, with straw and water only, unless it be now and then to give him a loaf of bread: for the lower he be kept, the sooner he will be whole. And in any wise let his neck be yoked in an old bottomless pail, or else

with short staves to keep him from licking the sores, and the less rest he hath, the better. Or do thus: Take a good great Dock-root clean scraped, and cut thereof five little rundles or cakes to be used as followeth. First with a knife make a slit right down in the Horses fore-head three inches long, then with a Cornet loosen the skin within the flesh, so as you may easily put therein five rundles of Dock, that is to say, two on each side of the slit one above another, and put the fifth rundle in the very midst betwixt the other four: that done, fasten to each of the slits two short Shoemakers ends, to serve as laces to tie in the foresaid rundles, so as they may not fall out, and cleanse the sore every day once, for the vertue of the root is such, as it will draw all the filthy matter from any part of the body: yea, though the Farcin be in the hinder-legs, which matter is to be wiped away from time to time, and new roots be thrust into the slit according as you see it needful.

Of the Farcion.

Markham.

THe Farcion is a vilde disease, ingendered of ill bloud, flegmatick matter, and unkindely feeding; it appeareth in a Horse like unto little knots in the flesh, as big as a Hasel-nut; the knots will encrease daily and inflame, Impostume, and break; and when the knots amount to threescore, they will every night after breed so many more, till they have over-run the Horses body, and with the poyson, which is mighty and also strong, soon bring him to his death: This disease is very infectious and dangerous for some Horses, yet if it be taken in any time, it is easie to be holpen: The cure thereof is in this manner: Take a sharp Bodkin, and thrust it through the neather part of his nose, that he may bleed: or if you will, to let him blood in the neck-vein shall not be amiss, then feel the knots, and as many as are soft lance them and let them run; then take strong Lye, Lime, and Allum, and with the same bathe all his sores, and it shall in short space cure him. There is also another manner of curing this disease, and that is thus: Take a sharp lance-knife, and in the top of the Horses fore-head, just between his eyes, make a long slit even to the skull: then with a blunt instrument for the purpose lose the flesh from the scalp a pretty compass: then take Carret-roots cut into little thin round pieces, and put them between the skin and the skull, as many as you can, then close up the wound, and once a day anoint it with fresh Butter: This is a most sure and approved way to cure the Farcion; for look how this wound thus made, shall rot, waste, and grow sound, so shall the Farcion break, dry up, and be healed, because all the poyson that feedeth the disease shall be altogether drawn into the fore-head, where it shall die and waste away. The only fault of this cure is, it will be somewhat long, and it is a foul eye-sore until it be whole. Some use to burn this sorance, but that is naught and dangerous, as who so proves it shall finde.

A most approved medicine to cure the Farcion.

Markham.

TAke of Aqua-vite two spoonfuls, of the juyce of Herb of grace as much; mingle them together, then take of Plegants or Bals of Flax or Tow, and steep them therein, and stop them hard into the Horses ears; then take a needle and a thread, and stitch the tips of his two ears together, by means whereof he cannot shake out the medicine, and use him thus but three several mornings, and it will kill any Farcion whatsoever, for it hath been often approved.

Another medicine of the same.

SLit every hard kernel with a sharp knife, and fill the hole with an Ointment made of old Lard, Sope, and gray Salt, for that will eat out the coar, and cause it to rot, and so fall out of the own accord.

Of the Canker, called of the Italian, il Cancro.

Blundevile.

ACanker is a filthy creeping Ulcer, fretting and gnawing the flesh in great breadth. In the beginning it is knotty, much like a Farcine, and spreadeth it self into divers places, and being exulcerated, gathereth together in length into a wound or sore. This proceedeth of a melancholy and filthy bloud ingendered in the body, which if it be mixt with Salt humors, it causeth the more painful and grievous exulceration, and sometime it cometh of some filthy wound that is not cleanly kept, the corrupt matter whereof cankereth other clean parts of the body. It is easie to be known by the description before. The cure whereof according to Martin is thus: First let him blood in those veins that be next the sore, and take enough of him. Then take of Allum half a pound, of green Copperas, and of white Copperas, of each one quartern, and a good handful of Salt: boil all these things together in fair running water, from a pottle to a quart. And this water being warm, wash the sore with a cloth, and then sprinkle thereon the powder of unsleck't lime, continuing so to do every day once the space of fifteen days: and if you see that the lime do not mortifie the ranck flesh, and keep it from spreading any further; then take of black Sope half a pound, of Quick-silver half an ounce, and beat them together in a pot, until the Quick-silver be so well mingled with the Sope, as you can perceive none of the Quick-silver in it. And with an Iron slice, after that you have washed the sore with the Strong-water aforesaid, cover the wound with this Ointment, continuing thus to do every day once, until the Canker leave spreading abroad. And if it leave spreading, and that you see the ranck flesh is mortified,

and

and that the edges begin to gather a skin, then after the washing, dress it with the lime as before, continuing so to do until it be whole. And in the dressing, suffer no filth that cometh out of the fore, to remain upon any whole place about, but wipe it clean away, or else wash it away with warm water. And let the Horse during this cure, be as thinly dieted as may be, and thoroughly exercised.

Of the Fistula, called of the Italians *Fistula*.

A Fistula is a deep hollow crooking Ulcer, and for the most part springs of malign humors, ingendered in some wound, sore, or canker, not thoroughly healed. It is easie to know by the description before. The cure according to *Martin* is thus: First, search the depth of it with a quill, or with some other instrument of Lead, that may be bowed every way, meet for the purpose. For unless you finde the bottom of it, it will be very hard to cure: And having found the bottom, if it be in such a place as you may boldly cut, and make the way open with a lancet or rasor, then make a slit right against the bottom, so as you may thrust in your finger, to feel whether there be any bone or gristle perished, or spongy or loose flesh, which must be gotten out, and then rent it with a tent of flax dipt in this Ointment: Take of Hony a quartern, and of Verdigrease one ounce beaten into powder. Boil them together, until it look red, stirring it continually, lest it run over; and being luke-warm, dress the tent wherewith, and bolster the tent with a bolster of flax. And if it be in such a place, as the tent cannot conveniently be kept in with a band, then fasten on each side of the hole, two ends of Shoemakers thread right over the bolster to keep in the tent, which ends may hang there as two laces, to tie and untie at your pleasure, renewing the tent every day once until the sore leave mattering. And then make the tent every day lesser and lesser, until it be whole. And close it up in the end, by sprinkling thereon a little fleckt lime. But if the Fistula be in such a place as a man can neither cut right against the bottom, or nigh the same: then there is no remedy, but to pour in some Strong-water, through some quill, or such like thing, so as it may go to the very bottom, and dry up all the filthy matter, dressing him so twice a day, until the Horse be whole.

Of an *Aubury*.

THis is a great spungy Wart full of bloud, called of the *Italians*, *Moro*, or *Selfo*, which may grow in any place of the body, and it hath a root like a Cocks stone. The cure according to *Martin* is thus: Tie it with a thread, so hard as you can pull it, the thread will eat by little and little in such sort, as within seven or eight days it will fall away by it self. And if it be so flat as you can binde nothing about it, then take it away with a sharp hot Iron, cutting it round about, and so deep as you may leave none of the root behinde, and dry it with Verdigrease. *Russus* saith, that if it grow in a place full of sinews, so as it cannot be conveniently cut away with a hot Iron; then it is good to eat out the core with the powder of *Resalgar*, and then to stop the hole with flax dipt in the white of an Egge for a day or two; and lastly, to dry it up with the powder of unsleckt Lime and Hony, as before is taught.

Of Wounds.

Wounds come by means of some stripe or prick, and they are properly called wounds, when some whole part is cut or broken. For a wound according to the Physicians, is defined to be a solution, division, or parting of the whole; for if there be no solution or parting, then methinks it ought rather to be called a bruise than a wound. And therefore wounds are most commonly made with sharp or piercing weapons, and bruises with blunt weapons. Notwithstanding, if by such blunt weapons, any part of the whole be evidently broken, then it ought to be called a wound as well as the other: Of wounds some be shallow, and some be deep and hollow: Again, some chance in the fleshy parts, and some in the bony and finewie places: And those that chance in the fleshy parts, though they be very deep, yet they be not so dangerous as the other; and therefore we will speak first of the most dangerous: If a Horse have a wound newly made, either in his head, or in any other place that is full of sinews, bones, or gristles: First, *Martin* would have you to wash the wound well with white Wine well warmed: That done, to search the bottom of the wound with some instrument meet for the purpose, suffering it to take as little winde in the mean while as may be.

Then having found the depth, stop the hole close with a clout, until your salve be ready: Then take of Turpentine, of *Mel Rosatum*, of Oyl of Roses, of each a quartern, and a little unwrought Wax, and melt them together; and if it be a cut, make a handsome roll of clean picked Tow, so long and so big as may fill the bottom of the wound, which for the most part is not so wide as the mouth of the wound: then make another roll greater than that, to fill up the rest of the wound, even to the hard mouth, and let both these rolls be anointed with the ointment aforesaid luke-warm. But if the hurt be like a hole made with some prick, then make a stiffe tent, such a one as may reach the bottom, anointed with the aforesaid Ointment, and bolster the same with a little Tow; And if the mouth be not wide enough, so as the matter may easily run forth, if it be in

such place you may do it without hurting any sinew, then give it a pretty slit from the mouth downward, that the matter may have the freer passage, and in any wise have a special regard, that the tent may be continually kept in by one means or other, as by binding or staying the same with the ends of Shoemakers thread as is aforesaid. And if the hole be deep, and in such place as you may not then make your tent of a Sponge, and so long as it may reach to the bottom, and the tent being made somewhat full, with continual turning and wrying of it, you shall easily get it down, and then dress the wound with this twice a day, cleansing the wound every time with a little white Wine luke-warm. For this Sponge, anointed with the Ointment aforesaid, will both draw and suck up all the filthy matter, and make it so fair within as is possible: and as it beginneth to heal, so make your tent every day lesser and lesser, until it be ready to close up, and never leave tenting it, so long as it will receive a tent, be it never so short. For hasty healing of wounds breedeth Fistula's, which properly be old wounds, and therefore must be cured like Fistula's.

Of Wounds in the fleshy parts.

USe the same Ointment and manner of proceeding as before. And if the wound be large, then to keep in the tent or rolls, you shall be fain to put two or three Shoemakers ends on each side of the sore, leaving them so long as you may tie them together, and loosen them when you will like laces.

Of old Ulcers or Wounds.

TO cure an old Ulcer, as Fistula, Gall, or Botch, or any new received wound, these are the best Salves, and most approved in mine experience: Take of Hony half a pinte, of Deer-sewet two ounces, of Verdigrease beaten into powder as much; boil all these exceeding well upon the fire, then with the same luke-warm, tent or plaister any venomous sore, and it will recure it. If you take of Wax, Turpentine, Oyl of Roses, of Hogs-grease, of each like quantity, and half so much Tar as any one of the other simples; melt all these together, and being well incorporated together, either tent or plaister any wound, and it will heal it. Also, if you take the green leaves of Tobacco bruised, and put them into a green wound, they will heal it: the ashes of Tobacco burnt, if they be strewed upon any sore that is neer skinning, it will also skin it perfectly, and it will incarnate well, if the Ulcer be not too deep and dangerous. There be many other Salves, Plaisters, and Unguents which I could set down; but since I have experienced these for most effectual, I omit the others as superfluous.

Of an hurt with an Arrow.

IF the Horse be hurt with an Arrow, tent the hole with Hogs-grease and Turpentine molten together, renewing it every day once until it be whole.

Of pulling out Shivers or Thorns.

Martin saith, that if it be not very deep, Sope being laid unto it all night will make it to appear, so as you may pull it out with a pair of nippers. But if it be very deep, then you must open the place with a knife or lancet, and get it out, and afterward heal up the wound as hath been taught you before. *Russius* saith, that the roots of Reed being stampd and mingled with Hony, will draw out any thorn or shiver: and so will Snails, as he saith, being stampd and wrought with fresh Butter; and if the place be swoln, he saith it is good to mollifie it with Hogs-grease and Hony, which will assuage any new swelling, that cometh by stripe or otherwise.

Of bruisings or swellings.

Martin saith, First prick it with a fleam. Then take of Wine lees a pinte, as much Wheat-flowre as will thicken it, and an ounce of Cumin; boil them together, and lay this somewhat warm unto it, renewing it every day once until the swelling either depart, or else come to a head. And if it do, then lance it, and heal it up as a wound.

Of Sinews cut, prickt, or bruised.

Blundevile.

TAke of Tar, and Bean-flowre, and a little Oyl of Roses, and lay it hot unto the place. And if this do no good, then take Wormis and Sallet Oyl fryed together, or else the Ointment of Worms, which you shall have at the Apothecaries, and one of these will knit it again, if it be not clean asunder.

Of

How to cure a wound made with Harquebush-shot.

Martin saith; First seek with an instrument whether the peller remain within or not, and if it do, you must get it out with an instrument meet for the purpose. Then to kill the fire, Take a little Vernish, and thrust it into the wound with a feathery anointing it well within with the feather, and after that, stop the mouth fair and softly with a little soft flax, to keep the winde out, and on the outside, charge all the swelling with this charge: Take of Bole-arm Only a quarter, of Linseed beaten into fine powder half a pound, of Bean-flowre as much, and three or four broken Egges, shels and all, and of Turpentine a quarter, and a quart of Vinegar, and mingle them well together over the fire, and being somewhat warm, charge all the sore place with part thereof, and immediately clap a cloth, or a piece of leather upon it, to keep the wound from the cold air, continuing both to anoint the hole within with Vernish, and also, to charge the swelling without, the space of four or five days, and at the five days end leave anointing of it, and rent it with a tent reaching to the bottom of the wound, and dipped in Turpentine and Hogs-grease molten together, renewing it every day twice until it be thoroughly killed, which you shall perceive by the mattering of the wound, and by falling of the swelling: for so long as the fire hath the upper hand, no thick matter will issue out, but only a thin yellowish water, neither will the swelling assuage. And then take of Turpentine, washed in nine several waters, half a pound, and put thereon three yolks of Egges, and a little Saffron, and tencit with that Ointment, renewing it every day once until the wound be whole.

Of burning with Lime or any other fiery thing.

Martin saith; First wash away the Lime, if there be any, with warm water. Then kill the fire with Oyl and Water beaten together, dressing him so every day until it be all raw, and then anoint it with Hogs-grease, and strew thereupon the powder of flecked lime, dressing him so every day once until it be whole.

Of the biting of a mad Dog.

IF a Horse be bitten with a mad Dog, the venom of his teeth will not only pain him extremely, but also infect all his blood, and make him to dye mad. The cure according to the old Writers is thus: Take of Goats dung, of flesh that hath laid long in Salt, and of the herb *Ebulus*, called of some *Danewort*, of each half a pound, and forty Walnuts. Stamp all these things together, and lay thereof unto the sore, and this will suck out the venom, and heal the wound. It is good also to give the Horse Treacle, and Wine to drink: yea, and some would have the sore place to be fied with a hot Iron.

Of hurts by tusks of a Boar.

IF a Horse be hurt with the tusk of a Boar, lay Vitriol, and Copperas thereunto, and the powder of a Dogs head being burned, but let the tongue be first pulled out and cast away.

To heal the biting or stinging of Serpents.

Laurentius Russus saith; Take a good quantity of the herb called *Sanicula*, stamp it, and distemper it with the milk of a Cow, that is all of one colour, and give him that to drink, and that will heal him.

Another Medicine for the same purpose.

Make a plaister of Onions, Hony and Salt, stamp and mingled together, and lay that to the sore place, and give the Horse Wine and Treacle to drink. *Abysrus* would have you to give him white Pepper, Rhue, and Thyme, to drink with the Wine.

Of drinking of Horse-leaches.

IF a Horse chance to drink Horse-leaches, they will continually suck his blood, and kill him. The remedy, according to *Abysrus*, is to pour Oyl into the Horses mouth, which will make them to fall away and kill them.

Of swallowing down Hens dung.

IF a Horse swallow down Hens dung in his Hay, it will fret his guts, and make him to avoid filthy matter at the fundament. For remedy whereof, *Abysrus* would have you to give him drink made of Smallage-seed, Wine, and Hony, and to walk him thoroughly upon it, that he may empty his belly.

Of Lice, and how to kill them.

Blundevile.

They be like Geese Lice, but somewhat bigger, they will breed most about the ears, neck, and tail, and over all the body. They come of poverty, and the Horse will be alwayes rubbing, and scratching, and will eat his meat, and not prosper withal, and with rubbing he will break all his mane and tail. The cure, according to Martin, is thus: Anoint the place with Sope and Quicksilver, well mingled together, and to a pound of Sope, put half an ounce of Quicksilver.

Of Loufsiness.

Markham.

Here be Horses that will be Loufie, and it cometh of poverty, cold and ill keeping, and it is oftneft amongst young Horses, and most men take little heed unto it, and yet they will die thereon. The cure is, to wash them three mornings together in Stau-aker and warm water.

How to save Horses from the stinging of flies in Summer.

Anoint the Horses coat with Oyle, and Bay-beries, mingled together, or tie to the headstall of his collar, a sponge dipt in strong Vinegar, or sprinkle the stable with water wherein Herb-grace hath been laid in steep, or perfume the stable with Ivie, or with Calamint, or with Gith burned in a pan of coles.

Of bones being broken out of joynt.

Few or none of our Farriers do intermeddle with any such griefs, but do refer it over to the Bonefetter, whose practised hand, I must needs confesse, to be needful in such business. Notwithstanding, for that it belongeth to the Farriers art, and also for that the old writers do make some mention thereof, I thought good not to passe it over altogether with silence. Albeit, they speak only of fractures in the legs beneath the knee. For they make little mention or none of bones above the knee, taking them to be incurable, unlesse it be a rib, or such like. If a bone then be broken in the leg, it is easie to perceiue, by feeling the roughness and inequality of the place grieved, one part being higher then another. The cure whereof, according to *Abhyrtus* and *Hierocles*, is in this sort.

First put the bone again into his right place: that done, wrap it about with unwash't wool, binding it fast to the leg with a small linnen roller, soaked before in Oyl and Vinegar mingled together. And let that roller be laid on as even as is possible, and upon that again lay more wool dipt in Oyl and Vinegar, and then splent it with three splents, binding them fast at both ends with a thong, and let the Horses leg be kept straight, and right out, the space of forty days, and let not the bonds be loosened above three times in twenty days, unlesse it shrink, and so require to be new drest, and bound again. But fail not every day once, to pour on the fore place, through the splents, Oyl and Vinegar mingled together. And at the forty dayes end, if you perceiue that the broken place be powdered together again with some hard knob or gristle; then loosen the bonds, so as the Horse may go fair and softly, using from that time forth to anoint the place with some soft grease or Ointment.

Of broken bones.

Markham.

I Have not for mine own part had any great experience in broken bones of a Horse, because it chanceth seldom, and when it doth chance, what through the Horses brutish unruliness, and the immoderate manner of the act, it is almost held incurable; yet for the little experience I have, I have not found for this purpose any thing so soverain or absolute good, as Oyl of Mandrag, which applyed, conglutinateth and bindeth together any thing, especially bones being either shivered or broken.

Of bones out of joynt.

Blundevile.

If a Horses knee or shoulder be clean out of joynt, and no bone broken, *Martin* saith the readiest way is, to bind all the four legs together, in such sort as hath been taught before in the Chapter of Incording, and then to hoise the Horse somewhat from the ground, with his heels upward, so shall the weight and poise of his body, cause the joynt to shoot in again into the right place: for by this means he pleased not long since a friend and neighbour of his, who going with his Cart from *S. Albons*, towards his own house, his Thiller fell and put his shoulder clean out of joynt, so as he was neither able to rise, nor being holpen up, could stand on his legs: to which mischance *Martin* being called, made no more ado, but taking his friends Cart-rope, bound the Horses legs all four together, and with a lever being staid upon the Cart wheel, they putting their shoulders to the other end, hoised up the Horse clean from the ground, the poise of whose body made the bone to return into his

his right place, with such a loud knock or crack, as it might be heard a great way off, and the Horse immediately had the use of his leg, so as he drew in the Cart, and went also safe home without complaining thereof ever after.

Certain receipts of Plaisters, very good for broken bones, taken out of the old Authors, writing of Horse-leach craft.

Take of *Spuma argenti*, of Vinegar, of each one pound, of Sallet Oyl halfa pound, of *Ammoniacum*, and Turpentine, of each three ounces, of Wax, of Rosin, of each two ounces, of Bitumen, of Pitch, of Verdigrease, of each halfa pound. Boyl the Vinegar, Oyl and *Spuma argenti* together, until it wax thick, then put thereunto the Pitch, which being molten, take the pot from the fire, and put in the Bitumen, without stirring it at all, and that being also molten, then put in all the rest, and let the pot again to the fire, and let them boyl all together until they be all united in one: that done, strain it, and make it in a plaister form, and this is called *Hierocoles* Plaister.

Another receipt for broken bones.

Take of liquid Pitch one pound, of Wax two ounces, of the purest and finest part of Frankincense one ounce, of *Ammoniacum* four ounces, of dry Roses, and of *Galbanum*, of each one ounce, of Vinegar two pintes. Boyl first the Vinegar and Pitch together, then put in the *Ammoniacum*, dissolved first in Vinegar, and after that, all the rest of the aforesaid drugs, and after they have boyled together, and be united in one, strain it, and make it plaisterwise, and this is called *Emplastrum flavum*, that is to say, the Yellow plaister.

An Ointment for broken bones.

Take of old Sallet Oyl a quart, and put thereunto of Hogs grease, of *Spuma niri*, of each one pound, and let them boyl together until it begin to bubble above, and let this ointment be very warm when you use it.

Hitherto of all the diseases belonging to a Horse. Now therefore my promise was made unto you to speak of those things wherein the cure of all diseases do consist, that is to say, in letting of blood, in taking up of veins, in purging, and in giving the fire; yea, and also order it self bindeth me to treat of the said things presently, and first of letting blood.

In how many veins a Horse may be let blood, and to what end.

As touching the order, time of the year, Moon, and day, and other circumstances belonging to letting of blood, we have sufficiently spoken already in the keepers Office, in the 22 Chapter. It resteth therefore here to shew you what veins should be opened when the Horse is sick of any disease, according to *Vegetius* opinion. But first I will rehearse unto you once again, in how many veins a Horse may be let blood, and the rather for that I follow *Vegetius*. A Horse then may be let blood in the two Temple veins. *Item*, in the two eye veins, which are easie to finde in the face of the Horse, somewhat beneath the eyes. *Item*, in the two palat veins of the mouth. In the two neck veins. *Item*, in the two palat veins which are in the breast. *Item*, in the two fore thigh veins. *Item*, in the four shakle veins before. *Item*, in the two toe veins before. *Item*, in the two side veins, which may be otherwise called flank veins. *Item*, in the tail vein. *Item*, in the two hanch veins. *Item*, in the two hough veins. *Item*, in the four shakle veins behind. *Item*, in the two toe veins behind; so that by this account, a Horse may be let blood in 31 veins. All which veins are easie enough to know, because that every one lyeth in a little gutter, which by feeling softly with your finger, you shall finde immediately.

And *Vegetius* saith, that if any Horse be pained with any grief in his head, as with ach, heaviness, frenzy, falling-evil, or such like, then it is good to let him blood in the two temple veins with a fleam. If his eyes be waterish, bloodshot, or grieved with pin, web, or haw, then it is good to strike the eye vein with a fleam. If he have any heaviness or weariness of body, or be diseased in the throat with the strangullion, quinzie, or swelling of the arteries, either within or without, then it is good to let him blood in the mouth, in the palat veins with a Cornet. If he be vexed with an Ague, or with any other disease universally hurting the body, then let him blood in the neck veins. If his grief be in the lungs, liver, or in any other inward member, then let him blood in the breast veins, which we called before the palat veins. If he be grieved in the shoulder, then let him blood in the fore-thigh veins above the knee with a lancet, and that very warily, because that place is full of sinews, and if he be grieved in his joynts, then let him blood in the shakle veins, and that warily, because that place is also full of sinews.

And if he be foiled on his fore-feet, by foundering or otherwise, then let him blood in the toe veins, making way first with your drawer, or Cornet in the hoof to come to the vein. If he be diseased in the kidnies, reins, back, or belly, then let him blood in the flank veins, and in the tail. If he hath any grief in his hips, or houghs, then let him blood in the hip or hough veins. And if

his

his hinder-legs, joynts, or feet be grieved, then let him bloud in the shakel veins, and toe veins, as is afore said.

The order of taking up Veins, and wherefore it is good.

Blundevile.

THe order observed by *Martin*, is in this sort; First, if the Horse be very curst and shrewd, then cast him upon a dunghil, or some straw, then having found the vein that you would take up, marke well that part of the skin which covereth the vein, and pull that somewhat aside from the vein with your left thumb, to the intent you may slit it with a Rasor, without touching the vein. And cut no deeper then only through the skin, and that longest wise, as the vein goeth, and not above an inch long. That done, take away your Thumb, and the skin will return again into his place, right over the vein, as it was before. Then with a Cornet uncover the vein and make it up, and being bare, thrust the Cornet underneath it, and raise it up, so as you may put a Shoemakers threed underneath, somewhat higher then the Cornet, to knit the vein when time is. And if your Cornet had a hole in the small end to put in the threed, it should be the easilier done. Then the Cornet standing so still, slit the vein longest wise that it may bleed, and having bled somewhat from above, then knit it up with a sure knot, somewhat above the slit, suffering it to bleed only from beneath, and having bled sufficiently, then knit up the vein also beneath the slit with a sure knot, and fill the hole of the vein with Salt, and then heal up the wound of the skin with Turpentine and Hogs greafe molten together, and laid on with a little Flax. The taking up of veins is very necessary, and doth ease many griefs in the legs: for the taking up of the fore-thigh veins easeth Farcins, and swellings of the legs; the taking up of the shakel veins before, easeth the Quitter-bone and swelling of the joynts, scabs, and cratches. The taking up of the hinder veins, helpeth the Farcin, Swellings, and both the Spavens; the taking up of the shakel veins behind, helpeth swelling of the joynts, the pains, and kibed heels, and such like diseases.

Of Purging with Purgation or Glyster.

Purgations is defined by the Physitians, to be the emptying or voiding of superfluous humors, annoying the body with their evill quality. For such humors bring evill juyce and nutriment, called of the Physitians *Cacochymia*, which when it will not be corrected or holpen with good diet, alteration, nor by the benefit of nature and kindly heat, then it must needs be taken away by Purgation, Vomit, or Glyster. But forasmuch as Horses are not wont to be purged by Vomit, as men be, I will speak here only of Glysters and Purgations. And first because a Horse is grieved with many diseases in his guts, and that nothing can purge the guts so well as a Glyster, and especially the thick guts, I wish that our Farriers would learn to know the diversities of Glysters, to what end they serve, and with what drugs or simples they should be made, for as the disease requireth, so must the Glyster be made; some to allay griefs and sharpness of humors, some to binde, some to loosen, some to purge evill humors, some to cleanse Ulcers: but our Farriers use Glysters, only to loosen the belly, and for no other purpose; yea, few or none do that unlesse it be *Martin*, and such as he hath taught, who is not ignorant that a Glyster is the beginning of purgation. For a Glyster, by cleansing the guts, refresheth the vital parts, and prepareth the way before. And therefore whensoever a Horse is surfeited and full of evill humors, needing to be purged, and specially being pained in the guts, I would wish you to begin first with a Glyster. lest by purging him by medicine upon the sudden, you stir up a multitude of evill humors, which finding no passage downward, because the guts be stoppt with winde and dregges, do strike upwards, and so perhaps put the Horse in great danger.

But now you shall understand, that Glysters be made of four things, that is to say, of Decoctions, of Drugs, of Oyls, or such like unctious matters, as Butter and soft greafe, and fourthly of divers kindes of Salt to provoke the virtue expulsive. A Decoction is as much to say as the broth of certain hearbs or simples boyled together in water till the third part be consumed. And sometime in stead of such Decoction, it shall be needful perhaps to use some fat broth, as the broth of Beef, or of Sheeps heads, or Milk, or Whay, or some other such like liquor, and that perhaps mingled with Hony or Sugar, according as the disease shall require, the Glyster to be either Lenitive, that is to say, easing pain; or Glutinative, that is, joyning together; or else Absterfive, that is to say, cleansing or wiping away filthy matter, of which Decoction of broth being strained, you shall need to take three pintes or a quart at the least. And then into that, you may put such drugs as shall be needful to the weight of three or four ounces, according as the simples shall be more or lesse violent. Of Oyl at the least half a pinte, and of Salt two or three drams, and then to be ministred luke-warm with a horn or pipe made of purpose, when the Horse is not altogether full pached, but rather empty, be it either in fore-noon, or after-noon. And as touching the time of keeping Glysters in the body, you shall understand, that to Glysters absterfive half an hour or lesse may suffice: to Glysters Lenitive, a longer time if it may be: and to Glysters Glutinative, the longest time of all is most needful.

Of

Of Purgations.

Purgations for Men may be made in divers ſorts and forms; but Horſes are wont to be purged *Blundevile.* only with pills, or elſe with purging powders put into Ale, Wine, or ſome other liquor. But the ſimples whereof ſuch pills or powders be made, would be choſen with judgement and aptly applied, ſo as you may purge away the hurtful humors, and not the good. Learn firſt therefore to know with what humor or humors the Horſe is grieved, be it Choler, Flegm, or Melancholy, and in what part of the body ſuch humors do abound: then what ſimples are beſt to purge ſuch humors, and with what property, quality, and temperament they be indued. For ſome be violent and next couſins to poiſon, as Scammony, or *Coloquintida*. Some again are gentle, and rather meat than medicines, as *Manna*, *Caffia*, Whay, Prunes, and ſuch like. And ſome again be neither too violent, nor too gentle, but in a mean, as Rhubarb, Agarick, *Sene*, Aloes. The old men did uſe much to purge Horſes with the pulp of *Coloquintida*, and ſometime with the roots of wilde Cowcumber; and ſometime with the broath of a ſodden Whelp mingled with *Nitrum*, and divers other things, whereof I am ſure I have made mention before in the curing of Horſes diſeaſes.

Notwithſtanding I would not wiſh you to be raſh in purging a Horſe after the old mens example. For as their ſimples many times be very violent, ſo the quantities thereof by them preſcribed are very much, and dangerous for any Horſe to take in theſe days, in the which neither man nor beaſt, as it ſeemeth, is of ſuch force or ſtrength as they were in times paſt. And therefore whenſoever you would purge him with ſuch like kindes of Purgations as *Martin* uſeth, whereof you have example before in divers places; and whenſoever you liſt for knowledge ſake to deal with other ſimples, to prove them firſt upon ſuch Jades as may well be ſpared. For whoſoever mindeth to purge a Horſe well, that is, to do him good and no hurt, had need to conſider many things: as the nature of the Horſes diſeaſe, and the Horſes ſtrength: alſo the nature, ſtrength and quantity of the medicine that he miniſtreth: the Region, or Countrey, the time of the diſeaſe, the time of the year and day. For as the diſeaſes and evil humors cauſing ſuch diſeaſes are divers, ſo do they require to be purged with divers medicines, diverſly compounded, wherein conſiſteth a point of Art to be learned at the Phyſitians hands, and not at mine.

Again, weak, delicate, and tender Horſes may not be purged in ſuch ſort, as thoſe that be of a ſtrong ſturdy nature. And therefore in ſuch caſes the quality and quantity of the ſimples is not a little to be conſidered; neither is the hotneſs or coldneſs of the Region to be neglected, nor the time of the diſeaſe. For ſome require to be purged in the very beginning, ſome not until the matter be thoroughly digeſted: and though the diſeaſe proceed perhaps of cold, and cold humors, yet a man may not miniſter ſuch hot things in Summer, as he would do in Winter, nor in the contrary caſe, ſuch cold things in Winter as he would in Summer. And therefore the time and ſeaſon of the year is alſo to be obſerved: yea the day and time of the day. For the more temperate the day is, the better; not in an extreme hot day, for making the Horſe to faint; nor yet when the winde bloweth in the cold North, for that will ſtop and hinder the working of the medicine, but rather in a temperate moiſt day, when the winde is in the South, if it may be; for that will further and help the working of the medicine, and make the body looſe and ſoluble.

Again for a Horſe, whether you purge him with pills or drink, it is beſt for him (as *Martin* ſaith) to take them in the morning, after that he hath faſted from meat and drink all the night before. And having received his medicine, let him be walked up and down, one hour at the leaſt, and then ſet him up, and ſuffered to ſtand on the bit two or three hours without any meat, but in the mean time ſee that he be well littered, and warm covered: and at three hours end, offer him a little of a warm maſh made with Wheat-meal, or with Bran, or elſe with ground malt. Give him little meat, or none until he be purged: all which things have been ſhewed you before in divers places, and therefore I think it not good to be tedious unto you with often recital thereof.

Of Cauterization, or giving the fire, as well actual as potential.

Foraſmuch as the Fire is judged of all the old Writers to be the chiefeſt remedy, and as it were the laſt refuge in all diſeaſes almoſt whereunto a Horſe is ſubject, I thought good therefore to talk of it in this place; and the rather, for that few or none of our Farriers, unleſs it be *Martin*, or ſuch as have been taught, do know how to give the fire, or to what end it ſerveth. But firſt you ſhall underſtand, that according to the learned Chirurgeons, yea, alſo according to my old Authors, there be two kindes of Cautery, the one actual, and the other potential. The Cautery actual is that which is done only by fiering of the grieved place with a hot Iron. The potential Cautery is done by applying unto the grieved place ſome medicine corroſive, putrifactive, or cauſtick. But we will ſpeak firſt of the actual Cautery, ſhewing you wherefore it is good, then of what metal and faſhion your inſtrument ſhould be made, and finally how and when to uſe them.

Avicen ſaith, that an actual Cautery moderately uſed, is a noble remedy to ſtop corruption of members, to rectifie the complexion of the ſame, and alſo to ſtanch blood. Howbeit you muſt beware (ſaith he) that you touch not the ſinews, cords, or ligaments, leſt the member be weakened, or that the Cramp enſue. *Vegetius* alſo writing of Horſe-leach-craft, praiſeth the actual Cautery very much, ſpeaking in this ſort: The actual Cautery ſaith he, binderh together

ther parts loosened, it doth attenuate parts blown and puffed up, it dryeth up superfluous moisture, it looseth and divideth evill matter gathered together into knots, it asswageth old griefs, it rectifieth those parts of the body that are corrupted by any manner of way, reducing them to their pristinesstate, and suffereth no superfluity to grow or increase, for the skin being opened with a hot iron, all kind of corruption by virtue of the fire is first digested and ripened, and then dissolved, so as the matter doth issue out at the holes, whereby the member or part before offended is now healed, and eased of all pain and grief; yea the holes being once closed and clean shut up, that place is stronger and better knit, and covered with a tougher skin then ever it was before.

Now as touching the instrument whereof, and of what fashion they should be made, you shall understand, that *Vegetius* and the other old Writers would have them to be made of Copper, praising that metal to be far better to burn with, then Iron. The Chirurgions for mans body do praise Gold and Silver; but as for the fashion of the Irons, it is to be referred to the kind of sore place and grieved, wherewith you have to deal, according to the diversity whereof, the instruments are to be made of divers fashions, as some with searing Irons with sharp edges, and some with blunt and broad edges, some like right, and some like crooked Bodkins, and some like hooks and sickles, and some with a great Button, and some with a small Button at the one end; in making whereof, the Farriers judgement is most needful, who ought to be so skilful as he may be able to make all manner of Irons that he should occupie, and to alter them according as need shall require. And therefore I thought good only here to speak of the common drawing Iron, and of the Button Iron, like in form to those that *Martin* useth, referring all the rest to your own judgement, and specially sith you have been fully instructed before of what sort they should be made meet to serve your turn in any disease.

Now as touching the use of the instruments, two things are specially to be considered, that is the heating of the Iron, and the bearing of the hand. For the back of the Iron may not be red hot, but only the edge, for fear of yeelding too much heat. And therefore though it be made red hot at the first, yet it shall be good before you occupie it, to cool the back of the instrument in water; and as touching the bearing of the hand, more evenly and lightly it is done, the better, and that according as the fineness and thinness of the skin shall require, which is to be judged by the hair. For if the hair be short and fine, then it is a signe of a fine skin, if long and rough, then it betokeneth a thick skin. The fine skin requireth the lighter hand, and not to be burned so deep as the thick skin, yet both must be burned until they look yellow. But the fine skin will look yellow with lesser burning then the thick skin. For the thick skin with his long hair doth choke the fire, and therefore requireth a more heavy hand; yea, and more often heating of the instrument then the thin skin doth, and be sure to draw alwayes with the hair, and not against the hair, in what forme and in what manner of lines hath been taught you before; for those must be made either long, short, deep, shallow, right-crooked, or over-thwart, according as the disease doth require: you have learned also how to allay the heat of the fire, after such drawing. And therefore I have no more to say here, but only to admonish you according to *Vegetius* precepts, not to fire any finewie place, nor bone that is broken or out of joynt, for fear of weakning the whole member, nor to bear so heaveie or uneven hand, as you should thereby deform or misfashion any part of the Horse, nor be too hasty in giving the fire, but to attempt first all other convenient remedies, and when nothing else will help to make the fire your last refuge, and yet not so much to neglect it and abhor it, like the ignorant sort, as you will not use it when need requireth, for lack whereof many Horses go lame, and uncured of divers diseases. Practise your selves therefore in giving the fire at needful times with judgement and discretion, so shall you do it to the Horses benefit, and to your own great praise and profit.

Of Cauteries Potential.

CAuteries Potential, as *Johannes Vigo* saith, are medicines Corrosive, Putrifactive and Caustick. This word Corrosive, is derived of the Latin word *Corrodo*, which is as much to say, as to gnaw and fret; and of such Corrosives, some be simple and some compound. The simple, as *Vigo* saith, be such as these be, Roch Alum, as well burnt as not burnt, sponge of the Sea somewhat burnt, Lime, red Coral, powder of Mercury. Compound Corrosives be these, *Unguentum Apostolorum*, *Unguentum Egyptiacum*, *Unguentum Ceraceum*. Medicines Putrifactive, called of the learned sort, *Septica*, according to *Avicen*, be those that have strength to corrupt the complexion of the member, and to induce any scar like dead flesh, causing great pain; yea and Fevers, and therefore ought not to be ministered but to strong bodies and in strong diseases, as in Carbuncles, Cankers, Ulcers, and such like, and they be these, *Arsenicke*, *Sublimat*, *Resalgar*, and other medicines compound therewith. *Silvius* also addeth thereunto *Sandaraca*, *Chrysocolle*, and *Aconitum*, but he doth not agree with *Avicen* in the description of the putrifactive medicines: For he saith, that they have little pain or none, neither be they so hot and drie as those that are called *Escharotica*; that is to say, Cruitive: which be hot in the fourth degree, and do breed a crust and scar, and cause great pain, as unsleck't Lime, and the burned dregs of Wine: wherefore it seemeth that *Avicens* description belongeth rather to the cruitive then to the Putrifactive medicines.

Notwithstanding, I must needs say that our Chirurgions and also Farriers, do finde both *Arsenicke* and *Resalgar*, to be so sharp, hot and burning things, as when they minister the same to any part of the

the body, they are forced to allay the sharpness thereof: the Chirurgions with the juice of Plantain, or Daffadil, or else of House-leek, the Farriers with Hogs grease. Medicines Caustick, that is to say, Burning, are those whose operation are most strong and incline to the nature of the fire, and yet more easily allayed as *Vigo* writeth, then the medicines Putractive, and therefore may be more safely used. They be made as he saith, of strong lie, called *Capitellum*, or *Magistra*, of *Vitriole Romana*, *Sal Natri*, *Aqua fortis*, of this sort be all those which *Vigo* calleth the blistering medicines, as *Apium*, *Cantharides*, *Ciclamine*, Onions, strong Garlick, *Melanacardinum*, the stones or grains of *Vitis Alba*, otherwise called *Brionie*. Moreover, *Vigo* maketh every one of these Cauteries Potencial to excell one another, as it were by certain degrees, saying, that Corrosives be weaker then putrificatives, and Putrificatives be weaker then Causticks, and therefore Corrosives work in the upper part, and in soft flesh; Putrificatives, in hard flesh and deep. But Causticks have power to break the skin in hard flesh, and do enter most deeply. The use of the most part of which things have been taught you before in sundry places, according to *Martins* experience.

And therefore I leave to trouble you any further, wishing you that are desirous to know any more of those matters, to read *Taugantius* writing *De pisticis*; and *Silvius de medicamentorum compositione*; and *John Vigo* writing of Surgery, Englished but few years since. But the old writers, so far as I can judge by the words of *Absyrus*, and others, that write of Horse-leach craft, do apply this word Caustick, to such medicines as are attritive, and binding, called of *Martin* and other Farriers in these dayes, binding charges, as may well appear by the composition and use here following, recited by *Vegetius* in this sort.

The receipt of a Caustick used by Chiron, to dry up the superfluous moisture, and to bind parts loosened, and to strengthen parts weakened.

TAKE of Bitumen Judaicum two pound, of Bitumen Apollonii two pound, of the purest part of Frankincense six ounces, of Bdellium Arabicum two ounces, of Deers sewer two pound, of Populeum two ounces, of Galbanum two ounces, of the drops of Storax two ounces, of common Wax two pound, of Resin Gabial one pound, of Viscus Italicus three ounces, of Apocima two ounces, of the juyce of Hyssop two ounces, of the drops of Armoniack two ounces, of Pitch one pound.

Another Caustick used by Pelagonius, to dry up Swellings, Bladders, Wind-gals and Splents in the legs and joynts.

TAKE Virgin Wax one pound, of Rosin two pound and a half, of Galbanum three ounces, of Asphaltum Judaicum two pound, of Mirrhe secondary two pound, of Bitumen one pound, of Armoniack six ounces, of Costus six ounces. Boyl all these things together in an earthen pot, saving the Asphaltum, Armoniack and Costus, which being first ground like fine flowre, must be added unto the other things, and after that they have been boyled and cooled, and then boiled all together again, and well stirred, so as they may be incorporated together, and made all one substance. These kindes of Emplaisters or Ointments ought in my judgement to be so called, as I said before, rather binding charges, then Caustick medicines, because there be no such extreme Corrosive or burning simples in these, as are before recited. Notwithstanding I refer my judgment to those that be better learned, and so end for being over tedious. For if I would, I could take very good occasion here to speak of divers other medicines, whereof some are called *Anodyna*, easing pain and grief. *Martin* calleth them *Linoges*, which are made of Linseed, Camomile, soft grease and such like things, as are hot in the first degree; some again are called *Narcotica*, that is to say, astonying or bringing to sleep, as those that are made of *Opium*, *Mandragora*, *Poppie*, and such like cold and grosse things. And some are called *Sarcotica*, that is, Breeding flesh, as *Barly flowre* and *Frankincense*. And many other kinds of Emplaisters, Ointments, waters and salves, which would occupy a book of no small volum, to be written hereafter by some other perhaps, if not by my self. And in the mean time, let this that I may have already written suffice.

Of the Anticor.

AN Anticor cometh of superfluity of evill bloud or spirit in the arteries, and also of inflammation in the liver, which is ingendered by means of too choise keeping, and overmuch rest, which choaketh the vital power, and occasions unnatural swellings in the brest, which if they ascend upward and come into the neck, they are instantly death. The cure whereof is in this sort; Let him bleed so as he may bleed abundantly, then with a sharp knife in divers places cut the swelling: which done, set a cupping-glasse thereon, and cup it till the glasse filled with foul water fall away it self: then give the Horse to drink three mornings together a pinte of Malmesie well stirred with Cinnamon, Licoras, and a little Bezar stone, and during his sickness, let his drink be warmed, and mingled with either Bran or Malt.

of the Cords.

THe Cord is a disease that maketh the Horfe stumble, and many times fall, and they appear in a Horses fore-legs: this is the cure thereof; Take a sharp knife, and cut a slit even at the top of his nose, just with the point of the gristle, open the slit being made, and you shall perceive a white string, take it up with a Boars tooth, or some crooked bodkin, and cut it in sunder, then stitch up the slit and anoint it with Butter, and the Horfe doubtless shall be recovered.

of the Millets.

THe Millets is a grief that appeareth in the Fetlocks behind, and causeth the hair to shed, three or four inches long, and a quarter of an inch in breadth, like as it were bare and ill to cure. But thus is the cure; First wash it well with wrong lie, and rub it till it bleed, then binde unto it Hony, unsleck't Lime, and Deers sewer, boyled and mingled together, this do for the space of a week, and it shall be whole.

of the Serew.

A Serew is a foul sorance, it is like a Splent, but it is a little longer, and is most commonly on the outside of the fore-leg, as the Splent is on the inside. The cure is thus; Take two spoonfuls of strong Wine Vinegar, and one spoonful of good Saller Oyl, mingle them together, and every morning bestow one hour in rubbing the sorance with it altogether downward till it be gone, which will not be long in going.

The medicines arising out of Horses.

Pliny.

THe Grecians have written nothing at all concerning wilde Horses, because in their Countrey there was none of them usually bred or gotten: yet notwithstanding the same we ought to think that all medicines or any other things, which do proceed from them, are more strong in operation, and have in them greater force and power then any common Horses have, as it falleth out in all sorts of other beasts.

The blood of a Horfe (as *Pliny* affirmeth) doth gnaw into dead flesh with a putrifaactive force; the same vertue hath the blood of Mares, which have been covered by Horses: Also the blood of a Horfe (but especially of one which is a breeder) doth very much make and help against impostumes, and small bunches which do arise in the flesh. Moreover it is said that the blood of a young Asse is very good against the Jaundies, and the over-flowing of the gall, as also the same force and effect is in the blood of a young Horfe. The Horfe-leaches do use the blood of Horses for divers diseases which are incident unto them, both by anointing or rubbing the outward parts, as also within their bodies.

Theophrastus.

Furthermore if one do cut the veins of the palat of a Horses mouth, and let it run down into his belly, it will presently destroy and consume the maw or belly-worms, which are within him. When a Horfe is sick of the Pestilence, they draw blood out of the veins in his spurring place, and mingling the same upon a stone with Salt, make him to lick it up. The blood of a Horfe is also mingled with other medicines, and being anointed upon the armes and shoulders of men or beasts, which are broken or out of joynt, doth very much help them. But a Horfe which is weary or tyred, you must cure after this manner; First, draw some blood out of his matrix or womb, and mingle it with Oyl and Wine, and then put it on the fire till it be luke-warm, and then rub the Horfe all over against the hairs.

Vegetius.

Pliny.

If the sinews of Horses do wax stiffe or shrink in together, it is very necessary that the sick parts should be anointed with the hot blood which doth proceed from him, for Horses also which are fed in the field use their flesh and dung, against the biting and stinging of Serpents.

Furnerius.

We do also finde that the flesh of Horses being well boiled is very medicinable for divers diseases. Moreover it is very usuall and common with the women of *Occitania* to take the fat or grease of Horses to anoint their heads to make the hair of their heads multiply and increase; and certain later Physitians do mingle the marrow of a Horfe with other Ointments for a remedy against the Cramp.

The marrow of a Horfe is also very good to loosen the sinews which are knit and fastned together, but first let it be boyled in Wine, and afterwards made cold, and then anointed warmly either by the fire or Sun. If a Horfe do labor in that kinde of impostume which they vulgarly call the Worm, either any where as well as in the nose, they do open the skin with a searing iron, and do sprinkle Verdigrease within the Horses mouth being brent, and being added thereunto sometimes the seed of Henbane.

The teeth of a male Horse not gelded, or by any labour made feeble, being put under the head, or over the head of him that is troubled or starteth in his dream, doth withstand and resist all unquietness which in the time of his rest might happen unto him. *Pliny* also doth assent that flowre doth heal the soreness of a Horses teeth and gums, and the clefts and chinks of a Horses feet. *Albertus.*

The teeth also of a Horse is very profitable for the curing of the Chilblanes which are rotten and full of corruption when they are swollen full ripe. *Marcellus* saith, that the tooth of a Horse being beaten and crushed into very small powder, and being sprinkled upon a Mans genital doth much profit and very effectually help him: but the teeth which were first ingendred in a Horse, have this virtue in them, that if they should touch the teeth of Man or Woman who are molested and grieved with the tooth-ach, they shall presently find a final end of their pain: if in the like manner a childe do kisse the nose or snout of a Horse, he shall never feel pain in his teeth, neither at any time shall the childe be bitten by the Horse. *Seneca.*

The teeth which do first of all fall from Horses, being bound or fastned upon children in their infancy, do very easily procure the breeding of the teeth, but with more speed and more effectually if they have never touched the ground, wherefore the Poet doth very well apply these Verses, saying;

*Collo igitur molli dentes necentur equini;
Qui prima fuerint pullo crescente caduci.*

It is also said, that if the hair of a Horse be fastned unto the House of a mans enemy it will be a means that neither little flies or small gnats shall flie by his dwelling place or aboard. The tongue of a Horse being never accustomed unto wine, is a most present and expedient medicine to allay or cure the milt of a Man or Woman (as *Cæcilius Bion* reporteth unto us, that he learned it of the *Barbarians*.) But *Marcellus* saith, that the Horse tongue ought to be dried and beaten into small powder, and put into any drink, except wine only, and forthwith it will shew the commodity which riseth thereupon, by easing either Man or Woman, of the pain of the Spleen or Milt: divers also do think that a Horses tongue used after this manner, is a good means or preservative against the biting of Serpents or any other venomous creatures. *Pliny.*

But for the curing of any sores or griefs in the inward parts, the genital of a Horse is most of all commended: for as *Pliny* supposeth, this genital of a Horse is very medicinable for the loosing of the belly, as also the blood, marrow, or liver of a Goat, but these things do rather dry up and close the belly (as before we have taught) concerning the Goat. *Pliny.*

In the heart of Horses there is found a bone, most like unto a Dogs tooth, it is said that this doth drive away all grief or sorrow from a mans heart, and that a tooth being pulled from the cheeks or jaw bones of a dead Horse doth shew the full and right number of the sorrowes of the party so grieved. The dust of a Horse hoof anointed with Oyl and Water, doth drive away impostumes and little bunches which rise in the flesh, in what part of the body soever they be: and the dust of the hoof of an Ass anointed with Oyl, Water and hot urine, doth utterly expell all Wens and kernels which do rise in the neck, arme-holes, or any other part of the body, of either man or woman. *Pliny.*

The genital of a gelded Horse dried in an Oven, beaten to powder, and given twice or thrice in a little hot broth to drink unto the party grieved, is by *Pliny* accounted an excellent and approved remedy for the seconds of a woman. The foam of a Horse, or the dust of a Horse hoof dried, is very good to drive away shamefastness, being anointed with a certain titulation. The scrapings of the Horses hoofs being put in wine, and poured into the Horses nostrils, do greatly provoke his urine. The ashes also of an Horses hoof, being mingled with wine and water, doth greatly ease and help the disease called the Colick or Stone: as also by a perfume which may be made by the hoofs of Horses being dried, a childe which is still born is cast out. *Marcellus.*

The milk of Mares is of such an excellent virtue, that it doth quite expell the poison of the Sea-hare, and all other poison whatsoever: drink also mingled with Mares milk, doth make the body loose and laxable. It is also counted an excellent remedy against the falling sickness, to drink the stones of a Boar out of a Mares milk or water. If there be any filth or matter lying in the matrice of a woman, let her take Mares milk boiled and througly strained, and presently the filth and excrements will void clean away. If so be that a Woman be barren and cannot conceive, let her then take Mares milk (not knowing what it is) and let her presently accompany with a man, and she will conceive. The milk of a Mare being drunk doth assuage the labor of the matrice, and doth cause a still childe to be cast forth. If the seed of Henbane be beaten small and mingled with Mares milk, and bound with a Harts skin, so that it may not touch the ground, and fastened or bound to a woman, they will hinder her conception. *Hippocrates.*

The thinnest or latest part of the milk of a Mare, doth very easily, gently, and without any danger purge the belly. Mares milk being dayly anointed with a little Hony doth without any pain or punishment take away the wounds of the eyes being new made. Cheese made of Mares milk doth repress and take away all wringings or aches in the belly, whatsoever. If you anoint a comb with the foam of a Horse, wherewith a young man or youth doth use to comb his head, it is of such force as it will cause the hair of his head neither to encrease, or any whit to appear. The foam of a

Horse is also very much commended for them which have either pain or difficulty of hearing in their ears, or else the dust of Horse dung being new made and dried, and mingled with Oyl of Roses. The grief or soreness of a mans mouth or throat, being washed or anointed with the foam of a Horse which hath been fed with Oates or Barly, doth presently expell the pain of the soreness, if so be that it be two or three times washed over with the juyce of young or green Sea-crabs beaten small together; but if you cannot get the Sea-crabs which are green, sprinkle upon the grief the small powder which doth come from dried Crabs which are baked in an Oven made of Brasse, and afterward wash the mouth where the pain is, and you shall finde present remedy. The foam of a Horse being three or four times taken in drink, doth quite expell and drive away the Cough. But *Marcellus* doth affirm that whosoever is troubled with the Cough, or consumption of the lungs, and doth drink the foam of a Horse by it self alone without any drink, shall finde present help and remedy: but as *Sextus* saith, the Horse will presently die after it. The same also being mingled with hot water, and given to one who is troubled with the same diseases, being in manner past all cure, doth presently procure health, but the death of the Horse doth instantly ensue. The sweat of a Horse being mingled with Wine, and so drunk, doth cause a woman which is very big and in great labor, to cast a still childe.

Marcellus.

Rasis.

Albertus.

Rasis.

The sweat of any Beast, (but as *Albertus* saith only of a Horse) doth breed wind in a man or womans face, being put thereupon, and besides that, doth bring the Squince or Squincy, as also a filthy stinking sweat. If Swords, Knives, or the points of Spears when they are red fire hot, be anointed with the sweat of a Horse, they will be so venomous and full of poyson, that if a man or woman be smitten or pricked therewith, they will never cease from bleeding as long as life doth last. If a Horse be wounded with an Arrow, and have the sweat of another Horse, and bread which hath been brent, being mingled in mans urine, given him to drink, and afterwards some of the same being mingled with Horse grease put into the wound, it will in short time procure him ease and help. There are some which will assure us, that if a man be troubled with the belly worms, or have a Serpent crept into his belly, if he take but the sweat of a Horse being mingled with his urine, and drink it, it will presently caule the Worms or the Serpent to issue forth.

Dioscorides.
Pliny.

The dung of a Horse or Assle which is fed with grasse, being dried and afterward dipped in wine, and so drunk, is a very good remedy against the bitings and blowes of Scorpions. The same medicines they do also use, being mingled with the genital of a Hare in Vinegar, both against the Scorpion, and against the Shrew-mouse. The force is so great in the poyson of a mad Dog or Bitch, that his pargeted Urine doth much hurt, especially unto them that have a sore boil upon them; the chiefest remedy therefore against the same is the dung of a Horse mingled with Vinegar, and being warmed put into the scab or sore. The dung as well of Asses as of Horses, either raw, cold, or burned, is excellent good against the breaking forth or issues of the blond.

Marcellus.

The dung of Horses or Asses being new made or warm, and so clapped and put to a green wound, doth very easily and speedily stanch the bleeding. If the vein of a Horse be cut, and the blood do issue out in too much abundance, apply the dung of the same Horse unto the place where the vein is cut, and the bleeding will presently cease, wherefore the Poet doth very well expresse it in these Verses following;

Rasis.

Relagonius.

*Sive finus manni cum testis uritur ovi,
Et reprimat fluidos miro medicamine cursus.*

Albertus.

Æsculapius.

The same doth also very well drive away the corruption in mens body which doth cause the blond to stinke if it be well and justly applyed unto the corrupt place. The same also being mingled with Oyl of Roses, and new made, and so applyed unto the ears, doth not only drive away the pain, but also doth very much help for hearing: There is another remedy also for the hearing, which is this, to take the dung of a Horse which is new made, and to make it hot in a furnace, and then to pour it on the middle of the head against the *Vunla*, and afterward to tie the aforesaid dung in a linnen or woollen cloth unto the top of the head in the night time.

Marcellus.

Pliny.

The dung of a young Assle when he is first foaled, given in Wine to the quantity or magnitude of a Bean, is a present remedy for either man or woman who is troubled with the Jaundice or the overflowing of the gall: and the same property hath the dung of a young Horse or Colt when he is new foaled. But the dung of an old Horse, being boiled in fair water, and afterward strained and so given to the party to drink, who is troubled with Water in his belly or stomach, doth presently make vent for the same.

Sextus.

Empiricus.

There is also an excellent remedy against the Colick and Stone, which is this, to take a handfull of the dung of a Horse which hath been fed with Oates and Barly, and not with grasse, and mingle very well it with half a pinte of Wine, all which I do guesse will amount unto the weight of eighteen ounces, and then boyl them all together untill half of them be boyled or consumed away, and then drink the same by little and little until it be all drunk up, but it will be much better for the party that is troubled to drink it up all together if he be able.

Marcellus.]

There is moreover a very good and easie way by Horse dung to cure the Ague or Quartern Fever, which is thus, to burn the foresaid dung, and to mingle the very dust it self thereof in old wine, and then beat it unto small powder, and so give it unto the party who is troubled therewith, to drink or suck without any water in it, and this will very speedily procure ease and help. If that a

woman

woman supposeth her childe which is in her womb to be dead, let her drink the milt or spleen of a Horse in some sweet water, not to the smell, but to the taste, and she will presently cast the childe. The same virtue are in the perfume which is made of a Horses hoof, as also in the dry dung of a Horse: There is some which do use this means against the falling sickness, or the sickness called *Saint Johns-evil*, that is to mingle the water or urine which a Horse doth make with the water which cometh from the Smiths trough, and so to give it the party in a potion. There is a very good help for Cattel which do avoid bloud through their Nostrils or secret parts, which is this, to make a paste of Wheat-flowre, and beat it and mingle it together with Butter and Egges in the urine of a Horse which hath lately drunk, and afterward to give that paste or poultices baked even to ashes to the beast so grieved.

Pliny.

Empiricus.

To provoke urine when a mans yard is stoppt, there is nothing so excellent as the dung or filth which proceedeth from the urine which a Horse hath made, being mingled with wine, and then strained, and afterwards poured into the Nostrils of the party so vexed.

Dioscorides.

Galen.

Pliny.

M. g.

There are certain Tettors or Ring-wormes in the knees of Horses, and a little above the hoofs in the bending of these parts, there are indurate and hardened thick skins, which being beaten into small powder and mingled with Vinegar, and so drunk, are an exceeding good preservative against the Falling-sickness: the same is also a very good remedy for them which are bitten with any wilde Beast whatsoever. By the Tetter or Ring-worm which groweth in a Horses knees or above the hoofs, beaten and mingled with Oyle, and so poured in the ears, the teeth of either man or woman which were weak and loose, will be made very strong and fast. The aforesaid Tetter, without any mingling with Oyl, doth also heal and cure the head-ache and Falling-sickness, in either man or woman. The same also being drunk out of Clarret Wine or Muscadell for forty dayes together, doth quite expell and drive away the Colick and Stone. If that any man do get and put up the shoos of a Horse being struck from his hoof as he travellet in his pace (which doth many times happen) it will be an excellent remedy for him against the sobbing in the stomach called the Hicker.

Of the HYÆNA, and the divers kinds thereof.

WE are now to discourse of a Beast whereof it is doubtful whether the names or the kinds thereof be more in number, and therefore to begin with the names, it seemeth to me in general, that it is the same Beast which is spoken of in Holy Scripture, and called *Zeeb-ereb*, and *Araboath*, *Zephani. 3. Principes urbis Hierosolymæ velut Leones rugientes, iudices ejus similes sunt lupis Vespertinis qui ossa non relinquunt ad diluculum*: Their Princes are roaring Lions, and their Judges are like to night-wolves which leave not the bones till the morning, as it is vulgarly translated. In like sort *Jer. 5. calleth them Zeeb-Araboath*, Wolves of the wilderness, and the Prophet *Habakkuk, Cap. 1. useth the word Zeeb-ereb*, Wolves of the evening. By which it is made easie to consider and discusse what kinde of Beasts this Hyæna may be deemed; for the Hyæna, as I shall shew afterward, is a Greek word. And first of all I utterly seclude all their opinions, which translate this word *Arabian Wolves*, for the *Hebrew* notes cannot admit such a version or exposition: But seeing we read in *Oppianus* and *Tzetzes*, that there are kinds of Wolves which are called *Harpages*, more hungry then the residue, living in Mountains, very swift of foot, and in the Winter time, coming to the gates of Cities, and devouring both flesh and bones of every living creature they can lay hold on, especially Dogs and men, and in the morning go away again from their prey, I take them to be the same Beasts which the *Grecians* call *Hyæne*, which is also the name of a Fish much like in nature hereunto. It is also called *Glanor*, and by the *Phrygians*, and *Bythinians*, *Ganos*, and from one of these came the *Illyrian* or *Sclavonian* word *San*, and it seemeth that the *Grecians* have given it a name from Swine, because of the gristles growing on the back, for an Hyæna can have no better derivation then from *Hus* or *Hyn*. *Julius Capitolinus* calleth it *Belbus* in *Latin*, in the same place where he recordeth that there were *decem Belbi sub Gordiano*, ten *Hyænaes* in the days of *Gordianus*: And the reason of this name is not improbably derived from *Belba* a City of Egypt. *Pincianus* a learned man calleth it *Grabthier*, because it hunteth the Sepulchres of the dead. *Albertus* in stead of *Hyæna*, calleth it *Iona*. The *Arabians* call it *Kabo*, and *Zabo*, or *Ziba* and *Azaro*. I take it also to be the same Beast which is called *Lacta*, and *Ana*, and *Zilio*, because that which is reported of these, is true in the Hyæna; they frequent graves, having sharp teeth and long nails, being very fierce, living together in herds and flocks, and loving their own kinde most tenderly, but most pernicious and hateful to all other, being very crafty to set upon a fit prey, defending it self from the rage of stronger Beasts by their teeth and nails, or else by flight or running away. Wherefore we having thus expressed the name, we will handle the kinds, which I finde to be three, the first *Hyæna*, the second *Papio* or *Dabub*, the third *Crocota*, and *Leucrocota*, whereunto by conjecture we may add a fourth, called *Mantichora*.

The names and other general accidents

Albertus.

The Figure of the first HYÆNA.



Hieronymus.
Aristotle.

Oppianus.
The several
parts.

Pliny.

Solinus.
Albertus.

Aristotle.
Whether they
change sexes
yearly.

Ovid.

Ælianus.

Their procrea-
tion.

THIS first and vulgar kinde of Hyæna, is bred in *Africk* and *Arabia*, being in quantity of body like a Wolfe, but much rougher haired, for it hath bristles like a Horses mane all along his back, and in the middle of his back it is a little crooked or dented, the colour yellowish, but bespeckled on the sides with blew spots, which make him look more terrible, as if it had so many eyes. The eyes change their colour at the pleasure of the beast, a thousand times a day, for which cause many ignorant writers have affirmed the same of the whole body, yet can he not see one quarter so perfectly in the day as in the night; and therefore he is called *Lupus vespertinus*, a Wolf of the night. The skilful *Lapidarists* of *Germany* affirm that this beast hath a stone in his eyes (or rather in his head) called *Hyæna* or *Hyænius*; but the Ancients say, that the apple or puple of the eye is turned into such a stone, and that it is indued with this admirable quality, that if a man lay it under his tongue, he shall be able to foretel and prophesie of things to come; the truth hereof I leave to the reporters. Their back-bone stretcheth it self out to the head, so as the neck cannot bend except the whole body be turned about, and therefore whensoever he hath occasion to wry his neck, he must supply that quality by removing of his whole body.

This Beast hath a very great heart, as all other Beasts have which are hurtful, by reason of their fear. The genital member is like a Dogs or Wolfs; and I marvail upon what occasion the writers have been so possessed with opinion that they change sexes, and are sometime male and another female, that is to say, male one year, and female another, according to these Verses,

*Si tamen est aliquid miræ novitatis in istis
Alternare vices, & quæ modo sæmina tergo
Passa marem est, nunc esse marem miremur Hyenam.*

Both kindes have under their tails a double note or passage, in the male there is a scissure like the secrets of a female, and in the female a bunch like the stones of the male, but neither one nor other inward, but only outward; and except this hath given cause of this opinion, I cannot learn the ground thereof: only *Orus* writeth, that there is a Fish of this name which turneth sex, and peradventure some men hearing so much of the Fish, might mistake it more easily for the four-footed Beast, and apply it thereunto.

These engender not only among themselves, but also with Dogs, Lions, Tygers, and Wolves, for the *Ethiopian* Lion being covered with an Hyæna, beareth the *Crocota*. The *Tboers*, of whom we shall speak more afterward, are generated betwixt this Beast and a Wolf: and indeed it is not without reason that God himself in holy Scripture calleth it by the name of a *Vespertine Wolfe*, seeing it resembleth a Wolf in the quantity, colour, in voracity and gluttoning in of flesh, in subtilty to overcome Dogs and Men, even as a Wolf doth silly Sheep. Their teeth are in both Beasts like sawes, their genitals alike, and both of them being hungry, range and prey in the night season.

This

This is accounted a most subtil and crafty beast according to the allusive saying of *Mantuan*; *Est in eis Pietas Crocodili, astutia Hyæne.*

The disposition and natural properties of this beast.

Pliny.

Solinus.

And the female is far more subtil then the male, and therefore more seldom taken, for they are afraid of their own company. It was constantly affirmed that among eleven Hyænaes, there was found but one female; it hath been believed in ancient time that there is in this beast a Magical or enchanting power, for they write, that about what creature so ever he goeth round three times, it shall stand stone-still, and not be able to move out of the place: and if Dogs do but come within the compasse of their shadow and touch it, they presently lose their voice: and that this she doth most naturally in the full moon; for although the swiftness or other opportunity of the Dogs helpeth them to flee away from her, yet if she can but cast her shadow upon them, she easily obtaineth her pray. She can also counterfeit a mans voice, vomit, cough and whistle, by which means in the night time she cometh to Houses or folds where Dogs are lodged, and so making as though she vomited or else whistling, draweth the Dogs out of doors to her, and devoureth them. Likewise her nature is, if she finde a Man or a Dog on sleep, she considereth whether she or he have the greater body, if she, then she falleth on him, and either with her weight, or some secret work of nature by stretching her body upon him killeth him, or maketh him senselesse; whereby without resistance she eateth off his hands: but if she finde her body to be shorter and lesser then his, then she taketh her heels and flyeth away.

Ælianus.

Philes.

Solinus.

Ælianus.

If a Man meet with this Beast, he must not set upon it on the right hand, but on the left, for it hath been often seen, that when in haste it did run by the Hunter on the right hand, he presently fell off from his Horse senseless; and therefore they that secure themselves from this beast, must be careful to receive him on the left side, that so he may with more facility be taken, especially (saith *Pliny*) if the cords wherein he is to be ensnared be fastened with seven knots. *Ælianus* reporteth of them, that one of these coming to a Man asleep in a Sheep-cot, by laying her left hand or fore-foot to his mouth, made or cast him into a deed sleep, and afterward digged about him such a hole like a grave, as she covered all his body over with earth, except his throat and head, whereupon she sat untill she suffocated and stifled him; yet *Philes* attributeth this to her right foot. The like is attributed to a Sea-calf, and the fish Hyæna, and therefore the old Magicians by reason of this exanimating property, did not a little glory in these beasts, as if they had been taught by them to exercise Diabolical and praestigious incantation, whereby they deprived men of sense, motion, and reason. They are great enemies to men, and for this cause *Solinus* reporteth of them, that by secret accustomed themselves to houses or yards, where Carpenters or such Mechanicks work, they learn to call their names, and so will come being an hungred and call one of them with a distinct and articulate voice, whereby he causeth the man many times to forsake his work and go to see the person calling him; but the subtil Hyæna goeth further off, and so by calling allureth him from help of company, and afterward when she seeth time devoureth him, and for this cause her proper Epithet is *Æmula Texior*, *vocis*, Voice-counterfeiter.

There is also great hatred betwixt a *Pardall* and this Beast, for if after death their skins be mingled together, the hair falleth off from the *Pardals* skin, but not from the Hyænaes; and therefore when the *Egyptians* describe a superiour man overcome by an inferiour, they picture these two skins; and so greatly are they afraid of Hyænaes, that they run from all beasts, creatures and places, whereon any part of their skin is fastened. And *Ælianus* saith, that the *Ibis* bird which liveth upon Serpents, is killed by the gall of an Hyæna.

Ælianus.

Their enmity with other beasts.

Grus.

He that will go safely through the mountains or places of this beasts abode, *Rafis* and *Alkertus* say, that he must carry in his hand a root of Colloquintida. It is also believed that if a man compasse his ground about with the skin of a Crocodile, an Hyæna, or a Sea-calf, and hang it up in the gates or gaps thereof, the fruits enclosed shall not be molested with hail or lightning. And for this cause Mariners were wont to cover the tops of their sails with the skins of this Beast, or of the Sea-calf: and *Horus* saith, that a man clothed with this skin may passe without fear or danger through the midst of his enemies: for which occasion the *Egyptians* do picture the skin of an Hyæna to signifie fearless audacity. Neither have the Magicians any reason to ascribe this to any praestigious enchantment, seeing that a Fig-tree also is never oppressed with hail nor lightning.

The natural use of their skins.

Palladius.

Rafis.

Plutarch.

And the true cause thereof is assigned by the Philosophers to be the bitterness of it; for the influence of the heavens hath no destructive operation upon bitter, but upon sweet things, and there is nothing sweet in a Fig-tree, but only the fruit. Also *Columella* writeth, that if a man put three bushels of seed grain into the skin of this Beast, and afterward sow the same, without all controversy it will arise with much encrease. *Gentian* worn in an Hyænaes skin, seven dayes instead of an Amulet, is very soveraign against the biting of mad dogs. And likewise if a man hold the tongue of an Hyæna in his hand, there is no Dog that dareth to seize upon him. The skin of the forehead, or the blood of this Beast, resisteth all kinde of Witchcraft and Incantation. Likewise *Pliny* writeth, that the hairs layed to Womens lips, maketh them amorous. And so great is the vanity of the Magicians, that they are not ashamed to affirm, that by the tooth of the upper jaw of this Beast on the right side bound unto a mans arme or any part thereof, he shall never be molested with Dart or Arrow.

Cælius.

Ahuarias.
Zoroastres.

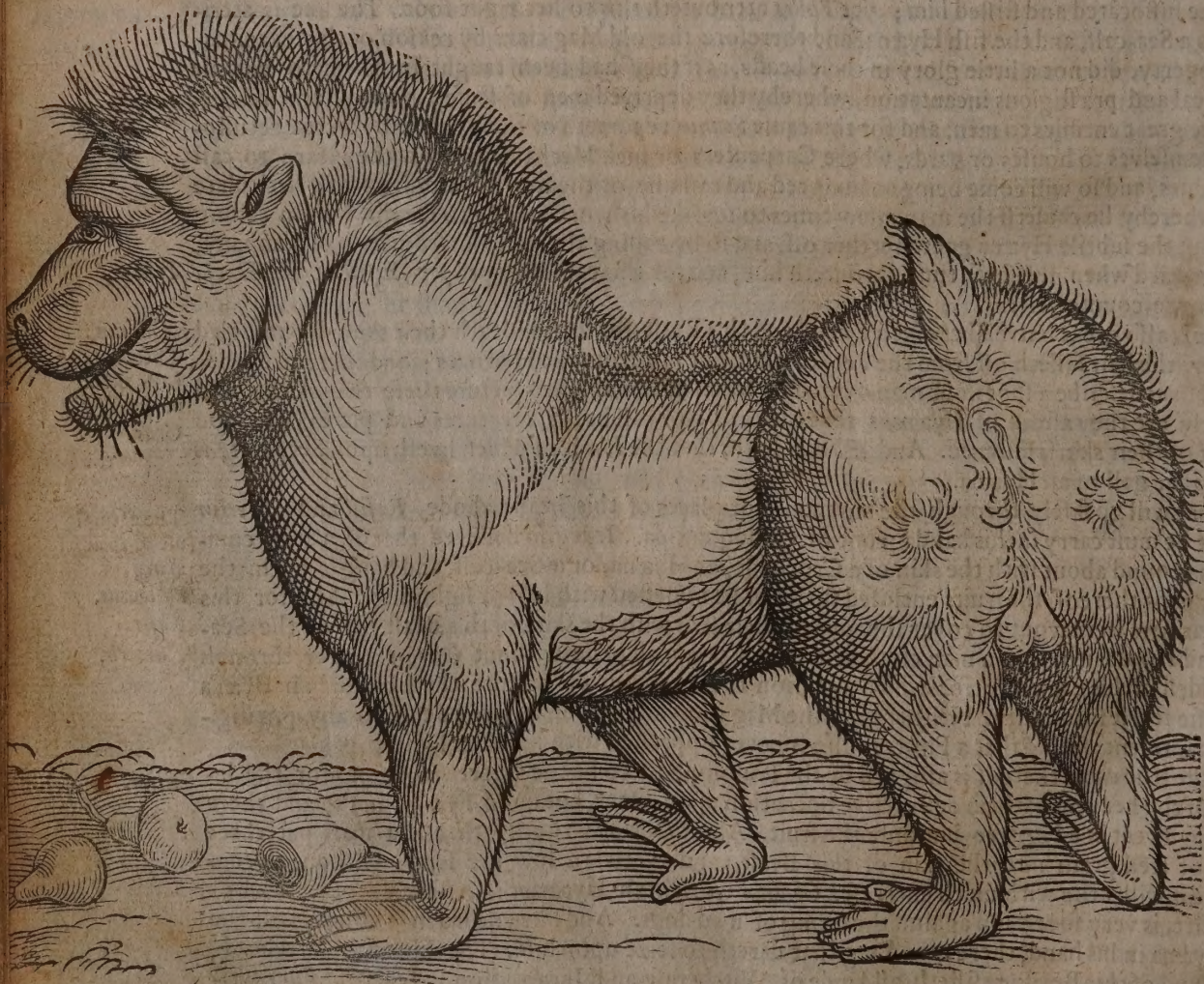
Likewise they say, that by the genital of this beast, and the Article of the back-bone which is called *Atlantios*, with the skin cleaving unto it preserved in a House, keepeth the family in continual concord, and above all other, if a man carry about him the smallest and extreme 'gut of his intrails, he shall not only be delivered from the Tyranny of the higher powers, but also foreknow the successe and event of his petitions and sutes in Law.

Porphyrius.

If his left foot and nails be bound up together in a Linnen bag, and so fastened unto the right arme of a Man, he shall never forget whatsoever he hath heard or knoweth. And if he cut off the right foot with the left hand and wear the same, whosoever seeth him shall fall in love with him, besides the Beast. Also the marrow of the right foot is profitable for a Woman that loveth not her Husband, if it be put into her nostrils. And with the powder of the left claw, they which are anointed therewith, it being first of all decocted in the bloud of a Weasill, do fall into the hatred of all men. And if the nails of any beast be found in his maw after he is slain, it signifieth the death of some of his hunters. And to conclude, such is the folly of the Magitians, that they believe the transmigration of souls, not only out of one man into another, but also of man into beasts. And therefore they affirm, that their men *Symis* and religious votaries departing life send their souls into Lions, and the religious women into Hyænaes.

The excrements or bones coming out of the excrements when it is killed, are thought to have virtue in them against Magical incantations. And *Democritus* writeth, that in *Cappadocia* and *Mesia*, by the eating of the hearb *Therionarcha*, all wilde beasts fall into a deadly sleep, and cannot be recovered but by the asperion of the urine of this beast. And thus much for the first kinde, now followeth the second.

The Second kinde of *HYÆNA*, called *Papio* or *Dabub*.



The Region
and quantity.

THis Beast aboundeth near *Cesarej* in quantity resembling a Fox, but in wit and disposition a Wolf; the fashion is, being gathered together, for one of them to go before the flock singing, or howling, and all the rest, answering him with correspondent tune: In hair it resemblerh a Fox and

and their voices are so shrill and sounding, that although they be very remote and far off, yet do men hear them as if they were hard by: And when one of them is slain, the residue flock about his carcase, howling like as they made funeral lamentation for the dead.

When they grow to be very hungry by the constraint of famine they enter into Graves of men, and eat their dead bodies, yet is their flesh in *Syria*, *Damascus*, and *Berutus*, eaten by men. It is called also *Randelos*, *Abensum*, *Aldabba*, *Dabba*, *Dabah*, and *Dhoboba*, which are derived from the Hebrew word *Deeb*, or *Deeba*: *Dabub* is the *Arabian* name, and the *Africans* call him *Lejph*, his feet and legs are like to a mans, neither is it hurtful to other Beasts being a base and simple creature. The colour of it is like a Bear, and therefore I judge it to be *Arctocyon*, which is ingendered of a Bear and a Dog, and they bark only in the night time. They are exceedingly delighted with Musick, such as is used by Pipes and Timbrels, wherefore when the Hunters have found out their caves, they spread their nets and snares at the mouth thereof, and afterwards striking up their instruments, the silly beast inconsiderate of all fraud cometh out and is taken, the picture hereof is formerly expressed. And there was one of these in *Germany* in the year of our Lord 1551. at the City *Ausburg* to be seen publickly. It was brought out of the Wilderness of *India*, it did eat Apples, Pears, and other fruits of trees, and also bread, but especially it delighted in drinking of Wine: when it was an hungry, it climbed up into trees, and did shake the boughs to make the fruit fall; and it is reported, that when it is in the tree, it feareth not an Elephant, but yet avoideth all other Beasts which it is not able to resist. It was of a chearful nature, but then especially when it saw a woman, whereby it was gathered that it was a lustful Beast. His four feet were divided like a mans fingers; and the female ever bringeth forth twins, a male and a female together.

It continually holdeth up his tail, shewing the hole behinde, for at every motion it turneth that, as other Beasts do their head. It hath a short tail, and but for that, I should judge it to be a kinde of Ape; I know not whether it be that kinde of little Wolf which *Bellonius* saith aboundeth in *Cilicia* and *Asia*, which in the night time raveneth and cometh to the bodies of sleeping men, taking away from them their boots, caps, or bridles: when they are shut up in the night time they bark like Dogs; but being at liberty they live two hundred in a company, so that there is no Beast so frequent as these in all *Cilicia*.

As for the golden Wolf spoken of by *Oppianus*, I defer the description of it to his due place, for they are not all of one colour: and thus much shall suffice for the second kinde of *Hyena*.

Of the CROCUTA.

THE third kinde of *Hyena* is called *Crocuta*, not the *Gulon* aforesaid, but another different from that, which is said to be an *Aethiopian* four-footed beast, because it is ingendred betwixt a *Lyones* and an *Hyena*. His teeth are all of one bone, being very sharp on both sides of his mouth, and included in the flesh like as in a case, that they may not be dulled: with their teeth they break any thing. It is said also by *Solinus*, that it never winketh, and that their nature seemeth to be tempered betwixt a Dog and a Wolf, yet is it more fierce then either of both, more admirable in strength, and especially of the teeth and belly, having power to break and digest any bone: it imitateth also the voyce of a man to devour them, as is said before in the *Hyena*.

In the Region *Dachinabades*, which is a mediterranean Country in the East, containing great and high mountains, amongst other wilde Beasts, are abundance of these *Crocutes*; and at the marriage of *Antonius* the son of *Severus* the Emperor, to *Plautilla* the daughter of *Plautianus*, amongst the spectacles set forth for the delight of the beholders, was a combat betwixt an Elephant and this Beast, which before that time was never to be seen at *Rome* (as *Dion* reporteth) And thus much for the third kinde of *Hyena*, except I may adde thereunto that Beast which the *Italians* call *Loupcbat*, that is *Lupus Catinus*, a Wolfe-cat, resembling in face a Cat with sharp and harmful claws, being betwixt a black and spotted colour, and was called an *Indian Wolf*, and this was to be publickly seen, in the Bishop's Castle at *Trent*.

Of the MANTICHORA.

THIS beast or rather Monster (as *Cusius* writeth) is bred among the *Indians*, having a treble row of teeth beneath and above, whose greatnes, roughnes, and feet are like a Lyons, his face and ears like unto a mans, his eyes gray, and colour red, his tail like the tail of a Scorpion, of the earth, armed with a sting, casting forth sharp pointed quills; his voyce like the voyce of a small Trumpe or Pipe, being in course as swift as a Hart; his wildenes such as can never be tamed, and his appetite is especially to the flesh of man. His body like the body of a Lyon, being very apt both to leap and to run, so as no distance or space doth hinder him; and I take it to be the same Beast which *Avicen* calleth *Marion*: and *Maricomorion*, with her tail she woundeth her Hunters, whether they come before her or behinde her, and presently when the quills are cast forth new ones grow up in their room, wherewithal she overcometh all the Hunters: and although *India* be full of divers ravening Beasts, yet none of them are stiled with a title of *Anthropophagi*, that is to say, Men-eaters: except only this *Mantichora*. When the *Indians* take a Whelp of this Beast, they all to bruise the buttocks and

The lamentation for the dead.

Albertus.

Bellunensis.

The several names,

The parts and natural disposition,

The manner of their taking,

The region, proportion, and other qualities,

Philus.



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and tail thereof, that so it may never be fit to bring ftarp quils, afterwards it is tamed without peril. This alfo is the fame Beast which is called *Leucrocota* about the bignefs of a wilde Afs, being in legs and Hoofs like a Hart, having his mouth reaching on both fides to his ears, and the head and face of a female like unto a Badgers. It is called alfo *Martiora*, which in the *Persian* tongue fignifieth a devourer of men; and thus we conclude the ftory of the *Hyæna* for her defcription, and her feveral kindes: Now followeth the medicines arifing out of her feveral parts.

The Medicines of the Hyæna.

The Oyl in which a Fox is baked either alive or dead, doth either altogether cure and make whole thofe which are troubled with the Gout, if fo be that the difeafe or ficknefs be green or new, or at the leaft not of too long continuance; it doth fo cure them, that although it may happen to return again, yet it will be much more milde and gentle then before it had been. But the Oyl which proceedeth from Foxes doth nothing more drive away the forenamed difeafe, then that which likewife is got or prepared out of the *Hyæna*; for that hath an excellent and eminent quality of diffolving and difperfing. The flefh of the *Alzabo* is both hot and cold, and being baked with Oyl, doth very much help either men or women which have their feet Gowty, or have any pain in their joynts, which may happen or come by the occafion of cold: for it is of a flender and diffolute fubftance.

The medicinal properties.

Galen.

Rafis.

The vanity of the *Magi*, or Wife-men, which is witty in nothing but in circumftance of words, doth fay, the beft time to take *Hyæna's*, is, when the Moon paffeth over the figne called *Gemini*, and that for the moft part the hairs be kept and preferved. The *Magi* do alfo affirm, that the skin of an *Hyæna* being fpread upon a fore which was bitten by a mad Dog, doth prefently and without any pain cure the fame. The fame alfo being bound to that part of the head, which doth ake, will immediately drive away the pain and grief thereof.

Pliny.

Pliny.

The fame doth very effectually and fpeedily help them which are troubled with the Gout, or fwelling in the joynts. The flowre of Barley being mingled with the bloud of an *Hyæna*, and fryed or baked over the fire and fo taken, doth very much allwage the wringings and wrinchings either in the guts or belly of a man or woman. If the bloud of an *Hyæna* being hot be anointed on them which are infected with the Leprofie, it will without delay very effectually cure them.

Albertus.

Rafis.

The *Hyæna's* flefh being eaten, doth much avail againft the bitings of ravenous Dogs; but fome are of opinion, that the liver being only eaten is of more force and power to cure or heal them. The nerves or finews of an *Hyæna*, being beaten to fmall powder, and dryed and mingled with Frankincenfe, together, and fo drunk, doth reftore fertility and plenty of feed in that woman which before was barren.

Pliny.

There is alfo for the biting of a ravenous Dog another excellent remedy, which is this, firft to anoint the place fo bitten with the fat or greafe of a Sea-calf, or elfe to give it in drink: and then to make the operation more effectual, mingle the marrow of an *Hyæna*, and Oyl that cometh from the Maffick tree and Wax together, and being fo applyed and anointed upon the fore, it will prefently cure the fame. The fame marrow of the *Hyæna* is very good and effectual againft the pain and grief in the finews, as alfo for the loofenefs and weaknefs of the reins.

Pliny.

The marrow which proceedeth from the Chine-bone of an *Hyæna*, being mixed with his Gall and old Oyl altogether, and fo boiled until they come unto a foft temperance, and mollifying medicine, being anointed upon the finews, doth expel and force away all pain of grief thereof whatfoever. The fame marrow being bound unto the back of either man or woman, who are troubled with vain phantafies or dreams in their fleep, doth very fpeedily and very effectually help them. The fat or greafe of an *Hyæna* being burnt, doth drive away all venomous Serpents from the place where it is ufed.

Democritus.

The fame being mingled with leaven, and fo being wrought into a plaifter, is a very good cure or remedy for the falling of the hair, or the difeafe called the Foxes evil. The left part of the brain of an *Hyæna* being either anointed upon the noftrils of either men or beafts, is of fuch vertue, that it will cure difeates upon them which are in a manner mortal. For the fertility or barrennefs of women, the eye of an *Hyæna* being mixed with Licoras, and the herb called Dill, and fo taken in drink, is of fuch force and power, that in three days it will make them fit for conception.

Myrepfus.

The teeth of an *Hyæna* either touched, or bound in order unto the teeth of any man or woman who are troubled with the tooth-ach, will prefently eafe the pain and vexation thereof. One of the great teeth of an *Hyæna*, being bound with a ftring unto any that are troubled in the night times with shadows and phantafies, and which are frayed out of their fleep with fearful vifions, doth very fpeedily and effectually procure them eafe and reft. The tooth of an *Hyæna* (called *Alzabo*) being bound upon the right arm of any one which is either oblivious or forgetful, and hanging down from the arm unto the middle finger or wrift, doth renew and refrefh their decayed memory.

Albertus.

The palat of an *Hyæna* being dryed and beaten to powder, and then mingled with Egyptian Allum, and fo made hot and mixed altogether, being three times turned in any ones mouth, which hath either fore or ulcer in it, will in fmall time procure them remedy and help of their vexation and trouble. The flefh which groweth upon the hinder part of the neck, being burned, and then eaten or taken in drink, doth very fpeedily help and cure the grief and aches of the loins.

The

The shoulders likewise being used in the aforesaid manner, doth profit much for the healing of any who are vexed with any anguish or pain in their shoulders or sides. The lungs being dried and taken in drink, do ease any, either man or woman which is troubled either with Colick or Stone. But being dried into powder, and mingled with Oyl, and so anointed upon the belly, it killeth the Worms, and expelleth all aches away from the belly. The Heart being used in the aforesaid manner and taken in drink, doth ease and help all aches, pains or griefs in the body whatsoever. The white flesh being taken from the breast of an Hyæna, and seven hairs, and the genital of a Hart, being bound all together in the skin or hide of a Buck or a Doe, and afterwards hanged about the neck of a woman which is in travel, will greatly hinder her for bringing forth her childe.

If there shall be any flesh or bones of men found in the body of a dead Hyæna, being dried and beaten to powder, and then mixed with a certain perfume, they will be very excellent to help the Gowt, or drive away the Convulsion of the sinews. The kell or caull wherein the bowels are contained, being used in the aforesaid manner, and also mixed with Oyl, will be a present remedy against the burnings and inflammations of sores, botches, and Ulcers.

Pliny.

The chine bone of an Hyæna being bruised and beaten into small powder, and so dried, and then mingled with the tongue and the right foot of a Sea-calf, the gall of an Ox being added thereunto, and all of them boyled or baked together, and anointed upon the hide or skin of an Hyæna, and so lapped about the legs or joynts of them which are troubled with the Gowt, will in short time ease the pain, and rid them altogether of the grief thereof.

The chine bone being also beaten to powder, and given in Wine to drink, is very profitable and necessary for those which are in sore travel or pain of childe-birth. The first or eighth rib of the same Beast, being beaten and mingled with a certain perfume, is very good and medicinable for sores and botches which do break through the flesh.

Dioscorides.

Marcellus.

Their flesh also being eaten, doth quickly cure and heal the bitings or tearings of a ravenous Dog; but their liver being so used, is more effectual and speedy for the curing thereof. The liver of the aforesaid Beast is also very curable for Agues or quartern Feavers being beaten to powder, and drunk in Wine, before the augmentation or second assaults thereof. The same also is an excellent and speedy remedy for the wringings and aches of the belly, as also for that grievous and painful disease called the Colick and Stone. For the same diseases, the gall of a Sea-scorpion, and of a fish called *Halops*, and of a Sea-crab, and of an Hyæna, being beaten to powder, and mixed together, and so drunk in Wine, is a very good and effectual cure and help. The gall of an Hyæna, by it self alone being rub'd or anointed upon the head of either man or woman whose hairs are fallen off, doth presently procure the hair to renew and grow again; it will also bring hair upon the eye-lids, being rubbed thereupon.

Galen.

Marcellus.

The gall of an Hyæna being mingled with Hony, and anointed upon the eyes; doth sharpen and clear the eye-sight, and expel and drive away all blemishes and small skins which cover the sight of the eye; as also the pain in the eyes called the Pin and the Web. But *Apollonius Pitaneus* doth say, that the gall of a Dog being used in the aforesaid manner, is better to cure the sight of the eyes than the gall of an Hyæna. But *Pliny* whom I think best to follow, and worthyest to be believed, doth best allow of the Hyæna's gall for the aforesaid purpose; and also for the expelling of certain white spots in the eye, which do hinder the sight thereof.

Pliny.

Marcellus.

The gall of a Bear and of a Hyæna, being dried and beaten to powder, and so mixed with the best Hony which is possible to be had, and then stirred up and down a long time together, doth help them unto their eye-sight which are stark blinde, if that it be daily anointed and spread upon the eyes for a reasonable space together: The gall of a Hyæna being baked in a cruse of *Athenian* Hony, and mingled with the crooked herb *Crocis*, and so anointed upon the brows or fore-head of them which are purblind, doth speedily help them; it doth also ease them which are troubled with the water or rheume which falleth in the eyes. *Democritus* doth also affirm, that if the brow of either man or woman be anointed with the gall of an Hyæna only, it will drive away all darkenings, and blemishes in the eyes, and expel the water or rheume thereof, and also assuage the pain or grief which may come or happen in them whatsoever it be.

Pliny.

Marcellus.

The marrow which proceedeth from the chine-bone of an Hyæna, being mixed with his own gall, and with old Oyl, and then baked or boiled in a cruse until it come unto a temperate and mollifying medicine, and then being laid or anointed upon the sinews or nerves, who is in those parts troubled, will thoroughly heal and cure any default or pain which may happen thereunto. The gall of a male Hyæna being pounded or beaten, and bound about the left thigh of any woman that is barren, doth help for conception. The gall of the same Beast being drunk in Wine, to the value of a dram, with the decoction or liquor which cometh from Spike-lavender, called Oyl of Spike, is a very good remedy and help against the Tympany or swelling of the belly. The gall also being beaten and mixed with the stone called Ear-flesh, is very good and profitable for them which are troubled with the Gowt. The milt of an Hyæna is very effectual to cure and heal any pain or grief in the milt of either man or woman. The lungs being dried and beaten to powder, and mingled with oyl, and anointed upon the loins of any one who is grieved or troubled in those places, will speedily cure the aches or griefs thereof.

The bladder of an Hyæna being drunk in Wine, is a very good and effectual remedy against the incontinency of man or womans urine, or the running of the reins. But if there be any urine in the bladder of the Hyæna found when he is taken, let it be poured forth into some clean vessel, and mixed with

with Oyl which proceedeth from the pulse or corn of *India*, and so drunk up, and it will much ease and help them who are troubled in minde, and are full of care and grief. The secret parts of a female Hyæna beaten and mixed with the rinde or skin of a Pomgranate, and taken in drink, is very profitable to cure the inconveniences or pain of a womans secret parts.

The genital of a male Hyæna dried and beaten to powder, being mingled with a certain perfume, doth cure and help those which are troubled with the Cramp, and Convulsion of the finews. The feet of an Hyæna being taken, doth heal and cure those which are sand-blinde, and such as have botches and sores breaking through the skin and flesh; and also such as are troubled with inflammations or breedings of winde in their bodies, only by touching and rubbing them over. *Dioscorides.*

The durt or dung which is found in the interior parts of an Hyæna, being burned, and dried into powder, and so taken in drink, is very medicinable and curable, for those which are grieved with painful excoriations and wringings of the belly, and also for those which are troubled with the Bloody-flux. And the same being mingled with Goose-grease, and anointed over all the body of either man or woman, will ease them of any pain or grief which they have upon their body whatsoever. The dung or filth of an Hyæna also, being mingled with certain other medicines, is very excellent to cure and heal the bites and stings of Crocodiles, and other venomous Serpents. The dung it self is also very good to purge and heal rotten wounds and sores which are full of matter, and filthy corruption.

Of the I B E X.

THis Beast Deut. the 14. is called *Ako*, and is there rehearsed among the clean Beasts, which although the Septuagints translate *Tragelaphus*, yet we have shewed already in that story, that it cannot stand with the meaning of the holy Ghost, because that Beast is found no where but near the River *Phasis*, or in *Arabia*, (as *Pliny* and *Diodorus* write:) and besides the *Chaldee* translation hath *Jaela*; the *Persians*, *Cotzietu*; the *Arabians*, *Obal*; all which by *Abraham Ezra*, and *Rabbi Solomon*, and many other of the learned *Jews*, are interpreted to be the *Ibex*, which of the *Germans* is called *Steinbock*; and the female of the *Helvetians* is called *Ibschen*, and *Ibschgeifs*; which words seemeth to be derived from the *Latine* word *Ibex*, and the *Cisalpine French*, which speak *Italian*, dwelling about *Millain*, retain the *German* word for the male, but the female by a proper word they call *Vesina*, and so also do the *Rhetians*. The *Transalpine French*, *Bouc estane*; the *Illyrians*, *Kozoroziacz*, and some *Latine* Authors call him *Capricornus*. The *Græcians*, *Ixales*, and *Ægoceros*: Although I have never read *Capricornus* to signifie a Beast, but only a star, excepting some Poetical Grammarians, who affirm this Beast to be a monster of the Sea; and that *Pan* when he fled out of *Egypt*, with other Gods from *Typhon* the Giant, their great Enemy, cast himself into the water, and was transformed into this Beast. But *Jupiter* admiring his wit, placed him among the Stars near to *Leo*, according to this verse:

Humidus Ægoceros, nec plus Leo tollitur urna.

Although there be some that affirm, this *Capricorn* to be placed among the Stars by *Jupiter*, because he was nursed with him. And that *Pan* hath his hinder parts like a fish, and his fore-part like a Goat, according to these verses:

*Tum gelidum valido de pectore frigus anhelans,
Corpore semifero, magno capricornus in orbe.*

Wherefore by the signes *Cancer* and *Capricornus*, the Ancients were wont to understand the descending and ascending of the soul: that is to say, by the *Cancer* or Crab which goeth backward, the souls descent, by *Capricorn*, (because the Goat climbeth) the souls ascent: and therefore they place it in the Zodiack, where the Sun after the short days beginneth to ascend, for no other cause then for that which I have rehearsed. The Epithets that are given unto this *Capricorn*, do also belong unto the *Ibex*, such as are these, moist, cold, swift, horn-bearer, watery, snowy, wool-bearer, rough, bristly, eared, horrible, fierce, tropick, frowning, shewing, threatening, black, and such like. *Porphyrus.*

To return therefore unto the *Ibex*, although I do not dislike the opinion of them, which take it to be a wilde Goat, yet I have reserved it into this place, because of many eminent differences, as may appear by the story. First these are bred in the *Alpes*, and are of an admirable celerity, although their heads be loaded with such horns, as no other Beasts of their stature beareth. For I do read in *Eustatius*, that their horns are sixteen palms long, or five spans and one palm, and sometimes seaven spans; such was the horn consecrated at *Delos*, being two cubits and a span long, and six and twenty pounds in weight. This Beast (saith *Polybius*) in his neck and hair is like a Buck-goat, bearing a beard under his chin of a span long, as thick as a Colts tail, and in other parts of his body resembleth a Hart. *The attributes of this beast.*

It seemeth that his *Hebrew* name *Jaal*, is derived of climbing, and *Isidorus* saith that *Ibices* are *quasi Avices*, that is like Birds, because like Fowls of the air, they inhabit the tops of cliffs, Rocks, their abode, and



and Mountains, far from the view and sight of men. Their horns reach to their buttocks or hips, so that if at any time he doth chance to fall, he coucheth his whole body betwixt his horns, to break the strong force and violence of his own weight, and also he is able to receive upon his horns the strokes of great stones which are shot or cast at him; they are knotty and sharp, and as they encrease in age, so do their horns in strongnes and other qualities, until they be twenty years old.

Stumptius.
The benefit of
cold.
Their several
members.

These Beasts inhabit and keep their abode in the tops of those Mountains, where the ice never thaweth or dissolveth; for it loveth cold by nature, otherwise it would be blinde; for cold is agreeable to the eye sight and beauty. It is a noble Beast, and very fat. In the small head, and lean legs, it resembleth a Hart; the eyes are very fair and bright; the colour yellowish; his hoof cloven and sharp like wilde Goats. It far excelleth a wilde Goat in leaping; for no man will believe how far off, or what long space it will leap, except he saw it. For there is no place so steep or cragged, that if it afford him but so much space as his foot may stand on, but he will pass over it with a very few jumps or leaps. The Hunters drive them to the smooth and high Rocks, and there they by enclosing them, take them in ropes or toils, if they cannot come near them with shot or swords. When the Beast seeth his hunter which descendeth to him by some Rock, he observeth very diligently, and watcheth if he can see any distance or space betwixt him and the Rock; yea, but so much as his eye-sight can pierce through; and if he can, then he leapeth up and getteth betwixt the Hunter and the Rock, and so casteth him down head-long; and if he can espy no distance at all, then doth he keep his standing until he be killed in that place.

Their taking.

The hunting of this Beast were very pleasant, but that it is encumbered with much labour and many perils, and therefore in these days they kill them with guns. The Inhabitants of *Valois* (neer the River *Sedunus*) take them in their infancy when they are young; and tame them, and until they be old, they are contented to go and come with the tame Goats to pasture, but in their older and riper age they return to their former wilde nature.

Their copulation.

Aristotle affirmeth, that they couple or engender together (not by leaping upon each other) but standing upright, upon their hinder legs: whereunto I cannot consent, because the joynts and nerves

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nerves of their hinder-legs will not be stretched to such a copulation; and it may be that he or his relator had seen them playing together as Goats do, standing upright, and so took that gesture in their pastime for carnal copulation. The female hath less horns then the male, but a greater body; and her horns are very like to a wilde Goats.

When this Beast feelth infallible tokens of her death, and perceiveth that her end by some wound or course of nature approacheth, and is at hand; it is reported by the Hunters, that she ascendeth to the top of some Mountain or high Rock, and there fasteneth one of her horns in the same steep place, going round continually and never standing still, until she have worn that horn asunder, whereby she stayeth her self, and so at length at the instant or point of death, breaking her horn, falleth down and perisheth. And because they die among the Rocks, it falleth out seldom that their bodies are found, but many times when the Snow falleth from the Mountains in great and huge masses, it meeteth with a living Ibex, and other wilde Beasts, and so oppressing them driveth them down to the foot of the Hills or Mountains, as it doth trees and small houses, which are built upon the sides of them. Their behaviour at their death.

In Creet they make bows of the horns of these Beasts. And concerning their taking it is not to be forgotten how the Hunter which persueth her from one rock to another, is forced many times for the safeguard of his own life, to forsake his standing, and to observe the Beast when it maketh force at him, and to rid himself from danger of death by leaping upon his back, and taking fast hold on his horns, whereby he escapeth. In the house of Pompey, where the memorable Forrest of Gordianus was painted, there were among other Beasts, two hundred Ibices, which Pompey gave unto the people at the day of his triumph, for to make spoil thereof at their own pleasure. The use of their horns.

The Medicines of the Ibex.

Some do commend the blood of the Ibex to be a very good remedy against the stone of the bladder, being used in this manner: First, they divide it in parts, and put one part of the blood, and about some six parts of Wine *Apiat*, and Hony mixed together, and do boil them both together luke-warm, and afterwards they reserve it in a clean vessel, and the third day in the morning they give it unto the party to drink who is grieved, and then they put him into a Bath about noon time, and in the evening, and this order is to be observed for three days together, for it will come to pass, that in that space the Stone will be dissolved and turned into sand or gravel, and so by that means will have vent together with the urine.

There is also by the dung of the aforesaid Beast, an excellent remedy against the *Sciatica* or Hipgout, by which that most excellent Physician *Ausonius* himself was healed, and many other lying desperate of remedy, which is this; to gather the dung of this Beast in the seventeenth day of the Moon, neither is it any great matter whether you gather it in some part of the old Moon, for it will have the same operation: you shall therefore take as much of this dung as you can hold in your hand or fist at one time: so that the quantity of the dung be unlike, and you shall put it in a mortar and beat it to powder, and cast twenty grains of Pepper into the same fime, being very diligently pounded or bruised, and then you shall adde nine ounces of the best Hony unto the aforesaid mixture, and four pounds of the best Wine, and mix the potion in the manner of a compound Wine, and the dung or dirt being dried and beaten first; you shall mingle all the rest, and put them together in a vessel made of glass, that when you have any need, you may have the medicine ready prepared, to comfort him or her which is so afflicted.

Of the ICHNEUMON.

Marcellus and Solinus, do make question of this Beast (Ichneumon) to be a kinde of Otter, or the Otter a kinde of this Ichneumon, which I find to be otherwise called *Enydros*, or *Enhydrius*, because it liveth in water; and the reason of this name I take to be fetched *ab investigando*, because like a Dog or hunting Hound, it diligently searcheth out the seats of wilde Beasts, especially the Crocodile and the Asp, whose Eggs it destroyeth. And for the enmity unto Serpents, it is called *Ophiomachus*. *Isidorus* is of opinion, that the name of this Beast in the *Greek* is given unto it, because by the favour thereof, the venom and wholesomeness of meates is descried. Whereof *Dracontius* writeth in this manner: The kindes and names with the reason thereof.

Prædicit Suillus vimenijuscunq; veneni.

The Ichneumon foretellet the power, and presence of all poyson. And it is called *Suillus* in *Latine*, because like a Hog, it hath bristles in stead of hair; *Albertus* also doth call it *Neomon*, mistaking it for Ichneumon.

There be some that call it an Indian Mouse, because there is some proportion or similitude in the outward form between this Beast and a Mouse. But it is certain, that it is bred in no other Nation but only in *Egypt*, about the River *Nilus*; and of some it is called *Mus Pharaonis*, *Pharachs* Mouse. For *I baroab* was a common name to all the *Egyptian* Kings. Hermolaus, Gillius.

Albertus.
Vincentius.
The quantity
and several
parts.

Their procrea-
tion and fights
one with ano-
ther.

There be some that call it *Thyamon*, and *Anschycomon*, and also *Damula*, mistaking it for that Weasil which is an enemy to Serpents, called by the *Italians*, *Donola*: yet I know no learned man but taketh these two names, to signifie two different Beasts. The quantity of it or stature is sometimes as great as a small Cat or Ferret, and the hairs of it like the hairs of a Hog; the eyes small and narrow, which signifie a malignant and crafty disposition; the tail of it very long like a Serpents, the end turning up a little, having no hairs but scales, not much unlike the tail of a Mouse. *Ælianus* affirmeth, that both sexes bear young, having seed in themselves, whereby they conceive. For those that are overcome in combats one with another, are branded with a warlike mark of Villanage, or subjection to their Conquerours; and on the contrary side they which are conquered and overcome in fight, do not only make vassals of them whom they overcome, but in token thereof for further punishment, fill them with their seed by carnal copulation, so putting off from themselves to them, the dolours and torments of bearing young.

This first picture of the Ichneumon was taken by Bellonius except the back be too much elevated.



The second picture taken out of Oppianus Poems, as it was found in an old Manuscript.



The places of
their abode.

When it is angry the hairs stand upright, and appear of a double colour, being white and yellowish by lines or rows in equal distance, entermingled, and also very hard, and sharp, like the hair of a Wolf, the body is something longer then a Cats, and better set or compacted; the beak black, and sharp at the nose like a Ferrets, and without beard; the ears short and round; the legs black, having five claws upon his hinder-feet, whereof the last or hindmost of the inner side of the foot is very short; his tail thick towards the rump: the tongue, teeth and stones are like a Cats, and this it hath peculiar, namely a large passage, compassed about with hair, on the outside of his excrement hole like the genital of a woman, which it never openeth but in extremity of heat; the place of his excrements remaining shut, only being more hollow then at other times. And it may be that the Authors aforesaid, had no other reason to affirm the mutation of feeble or common transmigration of genital power, beside the observation of this natural passage in male, and female. They bring forth as many as Cats and Dogs, and also eat them when they are young: they live both in land and water, and take the benefit of both elements; but especially in the River *Nilus*, amongst the Reeds, growing on the banks thereof, according to the saying of *Nemetian*;

— Et placidis Ichneumona querere ripis;
Inter arundineas segetes. —

For it will dive in the water like an Otter, and seem to be utterly drowned, holding in the breath longer then any other four-footed Beast, as appeareth by his long keeping under water, and also by living in the belly of the Crocodile, until he deliver forth himself, by eating through his bowels, as shall be shewed afterwards. It is a valiant and nimble creature, not fearing a great Dog, but setteth upon him and biting him mortally, but especially a Cat; for it killeth or strangeth her with three bites of her teeth, and because her beak or snout is very narrow or small, it cannot bite any thing, except it be less then a mans fist. The proportion of the body is much like a Badgers, and the nose hangeth over the mouth, like as it were always angry; the nature of it is, finding the Crocodile asleep, suddenly to run down into his throat and belly, and there to eat up that meat which the Crocodile hath devoured, and not returning out again the way it went in, maketh a passage for it self through the Beasts belly.

The courage and strength of this beast.

His entrance into a Crocodile.

And because it is a great enemy and devourer of Serpents, the common people of that Countrey do tame them, and keep them familiarly in their houses like Cats, for they eat Mice, and likewise bewray all venomous Beasts: for which cause as is said before, they call it *Pharaohs Mouse*, by way of excellency. At *Alexandria* they sell their young ones in the Market, and nourish them for profit: It is a little Beast, and marvellously studious of purity and cleanliness.

The taming of Ichneumons.

Belonius affirmeth that he saw one of them at *Alexandria*, amongst the ruines of an old Castle, which suddenly took a Hen and eat it up, for it loveth all manner of fowls, especially Hens and Chickens, being very wary and crafty about his prey, oftentimes standing upright upon his hinder-legs, looking about for a fit booty, and when it espyeth his prey near him, it slideth so close to the ground, as is very admirable, until it be within the reach, and then leapeth upon it with incredible celerity, flying to the throat, and like a Lion killeth all by strangling. It eateth indifferently every living thing, as Snails, Lizards, Camelions, all kindes of Serpents, Frogs, Mice, and Asps. For *Strabo* saith, when he findeth an Asp by the water side, it catcheth hold on the tail, and so draweth the Beast into the water, and receiveth help from the floods to devour her enemy; and whereas we have said already, that the Ichneumon entrencheth into the belly of the Crocodile, *Ammianus Marcellinus*, *Strabo*, *Pliny*, and *Oppianus*, maketh thereof this discourse following. When the Crocodile hath filled his belly, and over-glutted himself with meat, he cometh to the land to sleep.

Their food.

Their subtilty in obtaining their prey.

Now there is in *Egypt*, a certain Bird called *Crochillus*, whose nature is to wait upon the Crocodile, and with her breath and claws, gently and with a kinde of delight, to pull out the remnants of the meat sticking in the Crocodiles teeth; wherewithal the Crocodile being pleased, openeth his mouth wide, to be thus cleansed by this Bird, and so falling fast asleep gaping, watched all the while by the vigilant eye of the Ichneumon, perceiving him to be deeply plunged in a senseless security, goeth presently and walloweth in sand and dirt, and with a singular confidence entereth into the gate of death, that is, the Crocodiles mouth, and suddenly pierceth like an Arrow through the Monsters wide throat down into his belly.

The Crocodile feeling his unlooked for evil, awaketh out of sleep, and in a rage or madness, void of counsel, runneth to and fro, far and wide, plunging himself into the bottom of the river, where finding no ease, returneth to land again, and there breatheth out his intolerable poyson, beating himself with all his power, striving to be delivered from this unsufferable evil. But the Ichneumon careth not for all this, sitting close upon the liver of the Crocodile, and feeding full sweetly upon his intrails, until at last being satisfied, eateth out her own passage through the belly of her host. The self same thing is related by *Plutarch*: but I wonder for what cause the Beast should rowl her self in sand and dirt, to enter into the Crocodiles belly; For first of all, if after her rolling in dirt, she dry her self in the Sun, yet will not that hard crust be any sufficient armour of proof to defend her small body from the violence of the Crocodiles teeth, and besides, it encreaseth the quantity of her body, making her more unfit to slide down through the Crocodiles narrow throat: and therefore, the Authors cannot be but deceived in ascribing this quality to her, when she is to enter into the Crocodile, but rather I believe, she useth this defence against the Asp, as *Aristotle* saith, and therefore the Author seeing her so covered with mud, might easily be mistaken in her purpose. For it is true indeed that when she seeth the Asp upon the land, she calleth her fellows, who arm themselves as before said before the combate, by which means they are safely preserved from the bitings of their enemies; or if it be true that they wallow themselves in the mud, they do not dry themselves in the Sun, but while their bodies are moist, slide down more easily into the Crocodiles belly.

The Crocodiles behavior feeling the Ichneumon in her belly.

Their combates with Asps.

Concerning their fighting with Asps, and the arming of themselves as aforesaid, the *Aegyptians* make this Hieroglyphick of the Ichneumon, to signifie a weak man, that wanteth and craveth help of others; *Pliny* also saith that when the Asp fighteth with this Beast, the Ichneumon turneth to her, her tail, which the Asp taking for defiance, presently maketh force at it, whereby she is overtaken and destroyed by the Ichneumon, but in my opinion this combate is better expressed by *Oppianus*.

For faith he, the *Ichneumon* covereth her body in the sand, as it were in a grave, leaving nothing uncovered but her long Serpentine tail, and her eyes, and so expecteth her enemy. When the *Asp* espyeth her threatening rage, presently turning about her tail, provoketh the *Ichneumon* to combate, and with an open mouth and lofty head doth enter the list, to her own perdition. For the *Ichneumon* being nothing afraid of this great bravado, receiveth the encounter, and taking the head of the *Asp* in his mouth, biteth that off, to prevent the casting out of her poyson: afterwards tearing her whole body in pieces, although gathered together wound in a circle; for the success of these two combatants, lyeth in the first blow. If the *Asp* first bite the *Ichneumon*, then doth her poyson destroy her adversary; and so on the contrary, if the *Ichneumon* first bite the *Asp*, then is the *Ichneumon* conquerour; and for this cause she covereth her body as aforesaid.

Their enmity
to all kindes of
Serpents, and
their eggs.

Furthermore, this Beast is not only enemy to the Crocodile and Asp, but also to their Eggs which she hunteth out by the sagacity of her nose, and so destroyeth them, yet doth she not eat them: whereby the merciful providence of God doth notably appear, for the safeguard of mankind, which in those Countries where these noisome Beasts are bred, hath provided such an enemy to destroy them, both Eggs, and Birds, as is friendly and tameable by the hand and wit of man.

For which cause the blinde Pagans, consecrated this Beast to *Latoa*, and *Lucina*, and the *Heraclaeopolites* did think that they possessed all religion; the *Egyptians* themselves did worship them, because as their Countrey is above all other plagued with Serpents, so they are much eased by the help of this little Beast. And when they die, they do not only lament them, but also bury them religiously. And thus much for the description of the *Ichneumon*. Now followeth their medicinal vertues.

The Medicines of the Ichneumon.

The skin of the Ichneumon, being dried and beaten into small powder, afterwards mingled with Wine Vinegar, and anointed upon those which are grieved with the venomous or poysonsome bites of the same Beast; doth very effectually and speedily cure them of the same. The pretious stone called by the name of *Iris*, which is very hard, as *Horus* saith, being burned, and afterward beaten or pounded into powder, is an excellent remedy against the venomous biting of the Ichneumon. It is also said, that all Beasts (but especially the Crocodile) do for the most part hate and detest the society of this Beast. There is moreover a very ranck and venomous poyson, which proceedeth from the genital or groin of this Beast.

Pliny.

Avicenna.

Marcellus.

Herodotus.

The hairs of the Ichneumon being taken in a certain perfume, doe very much help and cure those which are troubled or grieved with the Maw-worms. The dung of a Cat, or the dung of this Beast, is very medicinable to be put in any salve, or potion, for the strengthening and confirming of the body. The urine or tail of an Ichneumon, being mixed with the milk of a black Cow, and given unto those which are troubled with that grievous disease, called the Colick and Stone, for the space of three days together in any kinde of drink, will easily and speedily cure them of their pain. The stones of an Ichneumon, being either beaten in powder, or taken raw, either in Wine or any other drink, is very medicinable, and cureable for the easing of all such as are troubled or grieved with any ach, pain, or disease in their belly: And thus much shall suffice concerning the cures, and medicines of the Ichneumon.

Of the *LAMIA*.

The signifi-
cation of the
word Lamia.

His word *Lamia* hath many significations, being taken sometime for a Beast of *Lybia*, sometimes for a fish, and sometimes for a Spectre or apparition of women called *Phairies*. And from hence some have ignorantly affirmed, that either there were no such Beasts at all, or else that it was a compounded monster of a Beast and a Fish, whose opinions I will briefly set down. *Aristophanes* affirmeth, that he heard one say, that he saw a great wilde Beast having several parts resembling outwardly an Ox, and inwardly a Mule, and a beautiful Woman, which he called afterwards *Empusa*.

Visions of
Phairies.

When *Apollonius* and his companions travelled in a bright Moon-shine-night, they saw a certain apparition of *Phairies*, in *Latine* called *Lamie*, and in *Greek*, *Empusa*, changing themselves from one shape into another, being also sometimes visible, and presently vanishing out of sight again: as soon as he perceived it, he knew what it was, and did rate it with very contumelious and despiteful words, exhorting his fellows to do the like, for that is the best remedie against the invasion of *Phairies*. And when his companions did likewise rail at them, presently the vision departed away.

Philostratus.
The Poetical
Lamia.

The Poets say, that *Lamia* was a beautiful woman, the daughter of *Bellus* and *Lybia*, which *Jupiter* loved, bringing out of *Lybia* into *Italy*, where he begot upon her many sons, but *Juno* jealous of her husband, destroyed them as soon as they were born, punishing *Lamia* also with a restless estate, that she should never be able to sleep, but live night and day in continual mourning, for which occasion she also stealeth away and killeth the children of others, whereupon came the fable of changing of children: *Jupiter* having pity upon her, gave her exemptile eyes that might be taken in and out at her own pleasure, and likewise power to be transformed into what shape she would: And from hence also came the fained name of *Acho*, and *Alphito*.

Varinus.

where-

wherewithal women were wont to make their children afraid, according to these verses of *Lucilius*.

*Terricolae Lamiae, Fauni quas Pompiliique
Instituere Numae, tremite has, &c.*

Of these *Angelus Politianus* relateth this old wives story, in his preface upon *Aristotles* first book of *Analytick*, that his Grand-mother told him when he was a childe, there were certain *Lamiae* in the Wildernesse, which like Bug-bears would eat up crying boys, and that there was a little Well near to *Fesulanum*, being very bright, yet in continual shadow, never seeing Sun, wherethese Phairy women have their habitation, which are to be seen of them which come thither for water.

Old Wives
tales of Phai-
ries.



Plutarch also affirmeth, that they have exemptile eyes as aforesaid, and that as often as they go from home, they put in their eyes, wandering abroad by habitations, streets, and cross ways, entering into the assemblies of men, and prying so perfectly into every thing, that nothing can escape them, be it never so well covered: you will think (saith he) that they have the eyes of Kites, for there is no small mote but they espy it, nor any hole so secret but they finde it out, and when they come home again, at the very entrance of their house they pull out their eyes, and cast them aside, so being blinde at home, but seeing abroad. If you ask me (saith he) what they do at home, they sit spinning and making of wool, and then turning his speech to the *Florentines*, speaketh in this manner: *Vidistisne o seculo Lamias istas, viri Florentini, quae se & sua nesciunt, alios & aliena spectantur? Negatis? atqui tamen sunt in urbibus frequentes: verum personata incedunt, homines credas, Lamiae sunt:* that is to say, O ye *Florentines*, did you ever see such *Phairies*, which were busie in prying into the affairs of other men, but yet ignorant of their own? Do you deny it? yet do there commonly walk up and down the City, *Phairies* in the shapes of men.

There were two women called *Macho*, and *Lamo*, which were both foolish and mad, and from the strange behaviours of them, came the first opinion of the *Phairies*: there was also an ancient *Lybian* woman called *Lamia*, and the opinion was, that if these *Phairies* had not whatsoever they demanded, presently they would take away live children, according to these verses of *Horace*.

*Nec quodcumque volet, poscat sibi fabula credi,
Nec prae se Lamiae vivum puerum extrahat alio.*

A story of a
Phairy woman.

It is reported of *Menippus* the *Lycian*, that he fell in love with a strange woman, who at that time seemed both beautiful, tender, and rich, but in truth there was no such thing, and all was but a fantastical ostentation; she was said to insinuate herself into his familiarity, after this manner: as he went upon a day alone from *Corinth* to *Cenchrea*, he met with a certain phantasm or spectre like a beautiful woman, who took him by the hand, and told him that she was a *Phanician* woman, and of long time had loved him dearly, having fought many occasions to manifest the same, but could never finde opportunity until that day, wherefore she entreated him to take knowledge of her house, which was in the Suburbs of *Corinth*, therewithal pointing unto it with her finger, and so desired his presence: The young man seeing himself thus wooed by a beautiful woman, was easily overcome by her allurements, and did oftentimes frequent her company.

Cælius.

There was a certain wise man, and a Philosopher, which espyed the same, and spake unto *Menippus* in this manner: *O formose, & a formosis expetite mulieribus, ophi thalpeis, cai su ophis?* that is to say, O fair *Menippus*, beloved of beautiful women, art thou a Serpent and dost nourish a Serpent? by which words he gave him his first admonition, or inkling of a mischief; but not prevailing, *Menippus* purposed to marry with this Spectre, her house to the outward shew being richly furnished with all manner of household goods; then said the wise man again unto *Menippus*, this gold, silver, and ornaments of house, are like to *Tantalus* Apples, who are said by *Homer* to make a fair shew, but to contain in them no substance at all: even so whatsoever you conceive of this riches, there is no matter or substance in the things which you see, for they are only enchanted Images and shadows, which that you may believe, this your neat Bride is one of the *Empuse* called *Lamie* or *Mormolyce*, wonderful desirous of copulation with men, and loving their flesh above measure, but those whom they do entice, with their venereal marts, afterward they devour without love or pity, feeding upon their flesh: at which words, the wise man caused the gold and silver plate and household stufte, Cooks and Servants, to vanish all away; Then did the Spectre like unto one that wept, entreat the wise man that he would not torment her, nor yet cause her to confess what manner of person she was; but he on the other side being inexorable, compelled her to declare the whole truth, which was, that she was a *Phairy*, and that she purposed to use the company of *Menippus*, and feed him fat with all manner of pleasures, to the intent that afterward she might eat up and devour his body; for all their kinde love was but only to feed upon beautiful young men.

The true definition of *Phairies*.

These and such like stories and opinions there are of *Phairies*, which in my judgement arise from the prestigious apparitions of Devils, whose delight is to deceive and beguile the mindes of men with error, contrary to the truth of holy Scripture, which doth no where make mention of such enchanting creatures; and therefore if any such be, we will hold them the works of the Devil, and not of God, or rather I beleeve, that as Poets call Harlots by the name of *Charybdis*, which devoureth and swalloweth whole Ships and Navies, alluding to the insatiable gulph of the Sea, so the *Lamie* are but Poetical allegories of beautiful Harlots, who after they have had their lust by men, do many times devour and make them away, as we read of *Diomedes* daughters; and for this cause also Harlots are called *Lupa*, She-wolves, and *Lepores*, Hares.

Their names and description.

To leave therefore these fables, and come to the true description of the *Lamia*, we have in hand. In the four and thirty chapter of *Esay*, we do finde this beast called *Lilith* in the *Hebrew*, and translated by the Ancients *Lamia*; which is there threatned to possess *Babel*. Likewise in the fourth chapter of the Lamentations, there it is said in our *English* translation, that the Dragons lay forth their breasts, in *Hebrew* they are called *Eihannim*, which by the confession of the best Interpreters, cannot signifie Dragons, but rather Sea-calves, being a general word for strange wilde Beasts. Howbeit the matter being well examined, it shall appear that it must needs be this *Lamia*, because of her great breasts, which are not competible, either to the Dragon or Sea-calves; so then we will take it for granted, by the testimony of holy Scripture, that there is such a Beast as this. *Chrysostomus Dion* also writeth that there are such Beasts in some part of *Lybia*, having a womans face, and very beautiful, also very large and comely shapes on their breasts, such as cannot be counterfeited by the art of any Painter, having a very excellent colour in their fore-parts without wings, and no other voice but hissing like Dragons: they are the swiftest of foot of all earthly Beasts, so as none can escape them by running; for by their celerity they compass their prey of Beasts, and by their fraud they overthrow men. For when as they see a man, they lay open their breasts, and by the beauty thereof, entice them to come near to conference, and so having them within their compass, they devour and kill them: unto the same things subscribe *Cælius* and *Giraldus*; adding also, that there is a certain crooked place in *Lybia*, near the Sea-shore, full of sand like to a sandy Sea, and all the neighbour places thereunto are Deserts.

If it fortune at any time, that through shipwrack men come there on shore, these Beasts watch upon them, devouring them all, which either endeavour to travel on the Land, or else to return back again to Sea, adding also that when they see a man they stand stone still, and stir not till he come unto them, looking down upon their breasts, or to the ground; whereupon some have thought, they seeing them at the first sight, have such a desire to come near them, that they are drawn into their compass, by a certain natural Magical Witch-craft: but I cannot approve their opinions, either in this or in that, wherein they describe him with Horses feet, and hinder-parts of a Serpent; but yet I grant that he doth not only kill by biting, but also by poysoning, feeding upon

upon the carcasſe which he hath devoured: His ſtones are very filthy and great, and ſmell like a Sea-calves, for ſo *Ariſtophanes* writing of *Cleon* a Coriar, and luſtful man, compareth him to a *Lamia*, in the greatneſs and filthineſs of his ſtones; the hinder part of this Beaſt are like unto a Goat, his fore-legs like a Bears, his upper parts to a Woman, the body ſcaled all over like a Dragon, as ſome have affirmed by the obſervation of their bodies, when *Probus* the Emperour brought them forth into publick ſpectacle: alſo it is reported of them, that they devour their own young ones, and therefore they derive their name *Lamia* of *laniendo*. And thus much for this Beaſt.

Of the *L I O N*.

Being now come to the diſcourſe of the Lion (juſtly ſtyled by all writers the King of Beaſts) I cannot chuſe but remember that pretty fable of *Eſope*, concerning the ſociety and honour due unto this beaſt. For (ſaith he) the Lyon, Aſſe, and the Fox entred league and friendſhip together, and foraged abroad to ſeek convenient booties, at laſt having found one and taken the ſame, the Lion commanded the Aſſe to make diviſion thereof, the ſilly Aſſe regarding nothing but ſociety and friendſhip, and not honor and dignity, parted the ſame into three equall ſhares; one for the Lion, an other for the Fox, and the third for himſelf: Whereat the Lion diſdaining, becauſe he had made him equall unto the reſidue, preſently fell upon him and toar him in pieces; then bidding the Fox to make the diviſion, the crafty Fox divided the prey into two parts, aſſigning unto the Lion almoſt the whole booty, and reſerving to himſelf a very ſmall portion; which being allowed by the Lion, he asked him, who taught him to make ſuch a partition, Marry (quoth the Fox) the calamity of the Aſſe, whom you lately toar in pieces.

In like manner, I would be loath to be ſo ſimple, in ſharing out the diſcourſe of the Lion, as to make it equall with the treatiſe of the Beaſts lately handled, but rather according to the dignity thereof, to expreſſe the whole nature, in a large and copious tractate. For ſuch is the rage of illiterate or elſe envious men, that they would cenſure me with as great ſeverity, if I ſhould herein, like an Aſſe, forget my ſelf (if I were in their power) as the Lion did his colleague for one fooliſh partition.

And therefore as when *Lyſimachus*, the ſon of *Agathocles*, being caſt by *Alexander* to a Lion to be deſtroyed, becauſe he had given poiſon to *Caliſthenes* the Philoſopher, that was for the ending of his miſery, who was included by the ſaid *Alexander* in a cave to be famiſhed to death; upon ſome flight diſpleaſure the ſaid *Lyſimachus*, being ſo caſt unto the Lion, did not like a cowardly perſon offer himſelf to his teeth, but when the Lion came gaping at him to devour him, having wrapped his arme in his linnen garment, held him faſt by the tongue, untill he ſtopped his breath, and ſlew him; for which cauſe, he was ever afterwards the more loved and honored of *Alexander*, having at the time of his death, the command of all his treaſure.

In like ſort, I will not be afraid to handle this Lion, and to look into him both dead and alive, for the expreſſing of ſo much of his nature, as I can probably gather out of any good writer.

Fiſt of all therefore to begin with his ſeveral names, almoſt all the Nations of Europe do follow the Greeks in the nomination of this Beaſt, for they call him *Leon*; the Latines, *Leo*; the Italians, *Leone*; the French and Engliſh, *Lion*; the Germans and Illyrians, *Lew*; the reaſon of the Greek name *Leon*, is taken *para to leuſſein*, from the excellency of his ſight; or from *Lao* ſignifying to ſee, and *Alaos* ſignifyeth blinde; for indeed there is no creature of the quantity of a Lion, that hath ſuch an admirable eye-ſight. The Lionefſe, called in Greek, *Leona*, which word the Latines follow, from whence alſo they derive *Lea* for a Lionefſe, according to this Verſe of *Lucretius*;

The ſeveral
names of Lions

Irritata Lea jaciebant corpora ſaltu.

The Hebrews have for this Beaſt male and female, and their young ones, divers names: and fiſt of all for the male Lion, in Deut. 33. they have *Ari*, and *Arieh*, where the Caldeans tranſlate it *Ariavan*, the Arabians, *Aſad*; the Perſians, *Gebad*, and plurally in Hebrew, *Araim*, *Araiot*, *Araoth*, as in the fiſt of Zeph. *Araoth*, *Sebojanim*, roaring Lions; and from hence comes *Ariel*, ſignifying valiant and ſtrong, to be the name of a Prince: and Iſai. 29. Ezek. 43. it is taken for the Altar of Burnt-offerings, becauſe the fire that came down from heaven, did continually lie upon that Altar, like a Lion in his den: or elſe becauſe the faſhion of the temple was like the proportion of the Lion; the Affyrians call a Lionefſe *Arioth*, the Hebrews alſo call the male Lion *Labi*, and the female *Lebia*, and they diſtinguiſh *Ari*, and *Labi*, making *Ari* to ſignifie a little Lion, and *Labi* a great one; and in Num. 23. in this verſe, containing one of Gods promiſes to the people of Iſrael for victory againſt their enemies; Behold my people ſhall ariſe like *Labi*, and be liſted up like *Ari*: there the Caldee tranſlation rendereth *Labi*, *Leta*, the Arabian, *Jebu*; the Perſians, *Scher*; and Muſter ſaith that *Labi* is an old Lion. In Job 38. *Lebaim* ſignifieth Lions, and in Pſal. 57. *Lebaot* ſignifieth Lionefſes. In the Prophet *Nahum* the 2. *Laiſch* is by the Hebrews tranſlated a Lion, and the ſame word Iſa. the 30. is by the Caldees tranſlated a Lions whelpe; and in the aforeſaid place of the

the Prophet *Nabum*, you shall finde *Arieb*, for a Lion, for a Lionesse, *Cephirim* for little Lions, *Labi* and *Gur* for a Lions whelp, all contained under one period. The *Saracens* call a Lion at this day *Sebey*. And thus much for the name.

The several
kinds of Lions.

In the next place we are to consider the kinds of Lions, and those are according to *Aristotle* two, the first of a lesse and well compacted body, which have curled manes, being therefore called *Acro-Leontes*, and this is more sluggish and fearful then the other. The second kinde of Lion hath a longer body, and a deeper loose hanging mane, these are more noble, generous, and couragious against all kinds of wounds. And when I speak of manes, it must be remembred, that all the male Lions are maned, but the females are not so; neither the Leopards which are begotten by the adultery of the Lionesse; for from the Lion, there are many Beasts which receive procreation, as the *Leopard* or *Panther*.

Varinus.
Hesychius.

There is a beast called *Leontophonus*, a little creature in *Syria*, and is bred no where else but where Lions are generated. Of whose flesh, if the Lion taste, he loseth that Princely power which beareth rule among four-footed beasts, and presently dyeth; for which cause, they which lie in waite to kill Lions, take the body of this *Leontophonus*, which may well be Englished, *Lion-queller*, and burneth it to ashes, afterwards casting those ashes upon flesh, whereof if the Lion taste she presently dyeth, so great is the poison taken out of this beast for the destruction of Lions; for which cause, the Lion doth not undeservedly hate it, and when she findeth it, although she dare not touch it with her teeth, yet she teareth it in pieces with her claws. The urine also of this beast sprinkled upon a Lion, doth wonderfully harm him, if it doth not destroy him. They are deceived that take this *Lion-queller* to be a kinde of Worm, or reptile creature, for there is none of them that render urine; but this excrement is meerly proper to four-footed living-beasts. And thus much I thought good to say of this beast in this place, which I have collected out of *Aristotle*, *Pliny*, *Solinus*, and other Authors aforesaid, although his proper place be afterward among the Lions enemies.

Ælianus.

The *Chimera* is also faigned to be compounded of a Lion, a Goat, and a Dragon, according to this Verse;

Prima Leo, postrema Draco, media ipsa Chimera.

There be also many Fishes in the great Sea, about the Isle *Taprobane*, having the heads of Lions, Panthers, Rams, and other beasts. The Tygers of *Prasia* are also engendred of Lions, and are twice so big as they. There are also Lions in *India*, (called *Formice*) about the bigness of Egyptian Wolves. *Camalopardales* have their hinder parts like Lions. The *Mantichora* hath the body of a Lion. The *Leucrocota* the neck, tail, and breast like a Lion, and there is an allegorical thing cald *Dæmonium Leoninum*, a Lion Devil, which by *Bellunensis*, is interpreted to be an allegory, signifying the mingling together reasonable understanding with malicious hurtful actions.

Monsters bred
like Lions.

It is reported also by *Ælianus*, that in the Island of *Chaos*, a Sheep of the flock of *Nicippus*, contrary to the nature of those beasts, in stead of a Lamb, brought forth a Lion, which monstrous prodigy was seen and considered of many; whereof divers gave their opinions what it did portend, namely, that *Nicippus* of a private man should effect superiority and become a Tyrant: which shortly after came to passe, for he ruled all by force and violence, not with fraud or mercy; for *Fraus* (saith *Cicero*) *quasi Vulpecula, vis Leonis esse videtur*; that is, Fraud is the property of a Fox, and violence of a Lion.

Cælius.

Herodotus.

It is reported that *Meles* the first King of *Sardis*, did beget of his Concubine a Lion, and the Soothsayers told him that on what side soever of the City he should lead that Lion, it should remain inexpugnable, and never be taken by any man; whereupon *Meles* led him about every tower and rampier of the City, which he thought was weakest, except only one tower, standing towards the River *Tmolus*, because he thought that side was invincible, and could never by any force be entred, scaled or ruinated. Afterwards in the reign of *Cresus*, the City was taken in that place by *Darius*.

Countries
without Lions.

There are no Lions bred in *Europe*, except in one part of *Thracia*, for the *Nemean*, or *Celonean* Lion is but a fable; yet in *Aristotles* time, there were more famous and valiant Lions in that part of *Europe*, lying betwixt the Rivers *Achelous* and *Nessus*, then in all *Africa* and *Asia*. For when *Xerxes* led his Army through *Pæonia* over the River *Chidorus*, the Lions came and devoured his Camels in the night time: But beyond *Nessus* towards the East, or *Achelous* towards the West, there was never man saw a Lion in *Europe*; but in the region betwixt them which was once called the Countrey of the *Abderites*, there were such store, that they wandered into *Olympus*, *Macedonia*, and *Thessalia*; but yet of purpose Princes in Castles and Towers for their pleasures sake, do nourish and keep Lions in *Europe*, where sometimes also they breed, as hath been seen both in *England* and *Florence*. *Peloponnesus* also hath no Lions, and therefore when *Homer* maketh mention of *Dianaes* hunting in the mountains of *Erimanthus* and *Taygetus*, he speaketh not of Lions, but of Harts and Boars.

Countries of
their breed.

All the Countries in the East and South, lying under the heat of the Sun, do plentifully breed Lyons, and except in hot Countries they breed seldom, and therefore the Lions of *Fesse*, *Temesna*, *Angad*, *Hippo*, and *Tunis*, are accounted the most noble and audacious Lions of *Africk*, because they are hot Countries. But the Lions of colder Countries have not half so much strength, stomach,



stomach, and courage. These *Lybian* Lions have not half so bright hair as others, their face and neck are very horrible rough, making them to look fearfully, and the whole colour of their bodies betwixt brown and black; *Apollonius* saw Lions also beyond *Nilus*, *Hipbafis*, and *Ganges*: and *Strabo* affirmeth that there are Lions about *Meroe*, *Astapa*, and *Astabore*, which Lions are very gentle, tame, and fearful, and when the Dog star called *Canis Sirius* doth appear, whereof cometh the Dog days, that then they are drove away by the bitings of great gnats.

Ethiopia also breedeth Lions, being black coloured, having great heads, long hair, rough feet, fiery eyes, and their mouth betwixt red and yellow. *Cilicia*, *Armenia*, and *Parthia*, about the mouth of *Ister*, breed many fearful Lions, having great heads, thick and rough necks and cheeks, bright eyes, and eye-lids hanging down to their noses. There are also plenty of Lions in *Arabia*, so that a man cannot travel neer the City *Aden* over the mountains, with any security of life, except he have a hundred men in his company. The Lions also of *Hircania* are very bold and hurtful; and *India*, the mother of all kinde of beasts, hath most black, fierce and cruell Lions. In *Tartaria* also, and the Kingdom of *Narsinga*, and the Province of *Abasia*, are many Lions, greater then those of *Babylon* and *Syria*; of divers and sundry intermingled colours, both white, black and red. There be many Lions also in the Province of *Gingui*, so that for fear of them, men dare not sleep out of their own houses in the night time. For whomsoever they finde, they devour and tear in pieces. The ships also which go up and down the River, are not tyed to the bank side for fear of these Lions, because in the night time they come down to the waterside, and if they can finde any passage into the barks, they enter in, and destroy every living creature, wherefore they ride at Ancor in the middle of the River.

The colour of Lions.

Cardanus.

The colour of Lions is generally yellow, for these before spoken of, black, white and red, are exorbitant. Their hair some of them is curled, and some of them long, shaggy and thin, not standing upright, but falling flat, longer before, and shorter behind, and although the curling of his hair be a token of sluggish timidity, yet if the hair be long and curled at the top only, it portendeth generous animosity. So also if the hair be hard: for beasts that have soft hair, as the Hart, the Hare, and the Sheep, are timorous, but they which are harder haired, as the Boar and the Lion, are more audacious and fearless.

There is no four footed beast, that hath hairs on his neather eye-lids like a man, but in stead thereof, either their face is rough all over as in a Dog, or else they have a foretop as a Horse and an Ass, or a mane like a Lion. The Lionesse hath no mane at all, for it is proper to the male, and as long hairs are an ornament to a Horses mane, so are they to the neck and shoulders of a Lion; neither are they eminent but in their full age, and therefore *Pliny* said; *Turrigeros elephantorum miramur humeros, leonum jubas*. We wonder at the Tower-bearing shoulders of Elephants, and the long hanging manes of Lions. And *Ælianus* *Rationis expertibus mari prestantiam quandam natura largita est, juba Leo antecellit fœminam, serpens crista*. Nature hath honoured the Male, even in creatures without reason, to be distinguished from the female, as the mane of the male Lion, and the comb of the male Serpent do from their females. *Martial* writeth thus of the Lions mane:

*O quantum per colla decus, quem sparsit honorem,
Aurea lunata cum stetit unda juba!*

The several parts.

Plutarch.

A Lion hath a most valiant and strong head, and for this occasion, when the Nymphes were terrified by the Lions and fled into *Carystus*, the Promontory wherein they dwelled was called *Co-leon*, that is, the Lions-head, where afterwards was built a goodly City. It fortun'd as *Themistocles* went thither to manage the affairs of the *Grecians*, *Epiries* the *Persian*, president of *Phrygia*, intended his destruction, and therefore committed the business unto one *Pifis*, with charge that he should behead *Themistocles*, who came thither to execute that murder; but it happened as *Themistocles* slept at the noon day, he heard a voice crying out unto him, *O Themistocles effuge leonem caput re ipse in leonem incurras*; that is to say, *O Themistocles* get thee out of the Lions head, lest thou fall into the Lions teeth: whereupon he arose and saved his life.

The face of a Lion is not round as some have imagined, and therefore compared it unto the Sun, because in the compasse thereof, the hairs stand out eminent like Sunbeams, but rather it is square figured like as his forehead, which *Aristotle* saith, you may chuse whether you will call it a forehead, or *Epipedon frontis*, that is, the superficies of a forehead; for like a cloud it seemeth to hang over his eyes and nose, and therefore the *Germans* call a man that looketh with such a countenance, *Niblen of Nubilare*, to be cloudy, and it betokeneth either anger or sorrow; also it is called *Scythicus aspectus*, because the *Scythians* were alwayes wont to look as though they were ready to fight.

The eyes of a Lion are red, fiery, and hollow, not very round nor long, looking for the most part awry; wherefore the Poets style the Lioness *Torva leona*. The pupils or apples of the eye shine exceedingly, insomuch as beholding of them, a man would think he looked upon fire.

His upper eye-lid is exceeding great, his Nose thick, and his upper chap doth not hang over the neather, but meet it just: his mouth very great, gaping wide, his lips thin, so that the upper parts fall in the neather, which is a token of his fortitude: his teeth like a Wolves and a Dogs, like sawes, losing or changing only his canine teeth, the tongue like a Cats or Leopards, as sharp as a file, wearing through

through the skin of a man by licking; his neck very stiffe, because it consisteth but of one bone without joynts, like as in a Wolfe and an Hyæna; the flesh is so hard as if it were all a finew: There are no knuckles or turning joynts in it called *Spondyli*, and therefore he cannot look backward.

The greatness and roughness of his Neck, betokeneth a magnanimous and liberal minde; Nature hath given a short Neck unto the Lion, as unto Bears and Tygers, because they have no need to put it down to the earth to feed like an Ox, but to lift it up to catch their prey. His shoulders and breasts are very strong, as also the forepart of his body, but the members of the hinder part do degenerate. For as *Pliny* saith, *Leoni vis summa in pectore*, the chiefest force of a Lion is in his breast.

The part above his throat-hole is loose and soft, and his *Metaphrenon* or part of his back against his heart (so called) betwixt his shoulder-blades, is very broad. The back bone and ribs are very strong, his ventricle narrow, and not much larger then his maw. He is most subject to wounds in his flank, because that part is weakest, in all other parts of his body he can endure many blows.

About his loyns and hip-bone he hath but little flesh. The lionesse hath two udders in the midst of her belly, not because she bringeth forth but two at a time, for sometimes she bringeth more, but because she aboundeth in milk, and her meat (which she getteth seldom) and is for the most part flesh, turneth all into milk. The tail of a Lion is very long, which they shake oftentimes, and by beating their sides therewith, they provoke themselves to fight. The *Grecians* call it *Alcea*: and *Alciatus* maketh this excellent emblem thereof upon wrath.

*Alceam veteres caudam dixere Leonis,
Qua simulante iras concipit ille graves.
Lutea quum surgit bilis crudescit, & atro
Felle dolor, furias excitat indomitus.*

The neather part of his tail is full of hairs and gristles; and some are of opinion, that there is therein a little sting wherewithal the Lion pricketh it self, but of this more afterwards.

The bones of Lions have no marrow in them, or else it is so small that it seemeth nothing: there-
fore they are the more strong, solid, and greater then any other beast of their stature, and the males
have ever more harder bones then the female, for by striking them together you may beget fire,
as by the percussion of Flints; and the like may be said of other beasts that live upon flesh, yet are
some of the bones hollow. The legs of a Lion are very strong and full of Nerves, and in stead of an
ankle-bone it hath a crooked thing in his pastern, such as children use to make for sport, and so
also hath the *Lynx*. *Ælianus. Aristotle.*

His forefeet have five distinct toes or claws on each foot, and the hinder feet but four. His claws
are crooked, and exceeding hard, and this seemeth a little miracle in nature, that Leopards, Tygers,
Panthers, and Lions, do hide their claws within their skin when they go or run, that so they might
not be dulled, and never pull them forth except when they are to take or devour their prey: also
when they are hunted, with their tails they cover their footsteps with earth, that so they may not
be bewrayed. *Pliny. Cardanus. Solinus.*

The Epithets of this beast are many, whereby the authors have expressed their several natures,
such are these, the curst kind of Lions, full of stomach, sharp, bold, greedy, bluncket, flesh-eater,
Caspian, *Cleonean*, the Lord and King of the beasts and woods, fierce, wilde, hairy, yellow, strong,
fretting, teeth-gnashing, *Nemean*, thundering, raging, *Getulian*, rough, lowring, or wry-faced, impa-
tient, quick, untamed, free, and mad, according to this saying of the Poet;

*Fertur Prometheus insani Leonis
Vim stomacho opposuisse nostro.*

For as the Eagle is faigned to feed upon the heart of *Prometheus*; so also is the Lion the ruler of
the heart of man, according to the *Astrologians*. And from hence it cometh that a man is said to bear
a stomach when he is angry, and that he should be more subject to anger when he is hungry, then
when he is full of meat.

These also are the Epithets of Lions, wrathful, maned, *Lybian*, deadly, stout, great, *Masilian*, *Mau-* The Epithets
ritanian, *Parthian*, *Phrygian*, *Molorchæan*, *Carthaginian*, preying, ravening, stubborn, snatching, wrink- of Lions.

led, cruell, bloody, terrible, swelling, vast, violent, *Marmarican*.
These also are the Epithets of the Lionesse, *African*, bold, stony-hearted, vengible, cave-lodg- The voice of
ing, fierce, yellow, *Getulian*, *Hyrceanian*, ungentle, *Lybian*, cruell, frowning, and terrible. By all Lions.

which the nature of this Beast, and several properties thereof, are compendiously expressed in
one word.

The voice of the Lion is called *Rugitus*, that is, roaring, or bellowing; according to this
Verse of the Poet;

Tigrides indomite rancant, rugiuntq; Leones.

And

And therefore cometh *Rugitus Leonis*, the roaring of the Lion. It is called also *Gemitus*, and *Fremitur*, as *Virgil*, *Fremet leo ore cruento*. And again;

Hinc exaudiri gemitus, iraq; leonum
Vincta recusantem, & fera sub nocte rudentem.

And when the young Lions have gotten a prey, in token thereof they roar like the bleating of a Calf, thereby calling their elders to participate with them. The places of their abode are in the mountains, according to this saying; *Leo cacumina montium amat*.

Their sight and their smelling are most excellent, for they sleep with their eyes open, and because of the brightness of their eyes, they cannot endure the light of fire: for fire and fire cannot agree: also their smelling (for which cause they are called *Odorati*) is very eminent, for if the Lionesse have committed adultery with the Leopard, the male discovereth it by the sense of his Nose, and for this cause also they are tamed in *Tartaria*, and are used for hunting Boars, Bears, Hares, Roe-bucks, wilde Asses, as also for wilde and outlandish Oxen, and they were wont to be carried to hunting, two Lions in a Cart together, and either of them had a little Dog following them.

There is no beast more vehement then a she or female Lion, for which cause *Semiramis* the Babylonian tyranness, esteemed not the slaughter of a male Lion or a Libbard; but having gotten a Lionesse, above all other she rejoyced therein. A Lion when he eateth is most fierce, and also when he is hungry, but when he is satisfied and filled he layeth aside that savage quality, and sheweth himself of a more meek and gentle nature, so that it is lesse danger to meet with him filled then hungry, for he never devoureth any till famine constraineth him.

I have heard a story of an *Englishman* in *Barbary* which turned *Moor*, and lived in the Kings Court, on a day it was said in his presence that there was a Lion within a little space of the Court, and the place was named where it lodged. The *Englishman* being more then half drunk, offered to go and kill the Lion hand to hand, and therewithal armed himself with a Musket, Sword and Dagger, and other complements, and he had also about him a long Knife; so forth went this regenerate *English Moor*, more like a mad man then an advised Champion to kill this Lion, and when he came to it, he found it a sleep, so that with no perill he might have killed her with his Musket before she saw him: but he like a fool-hardy fellow, thought it as little honour to kill a Lion sleeping, as a stout Champion doth to strike his enemy behind the back. Therefore with his Musket top he smote the Lion to awake it, whereat the beast suddenly mounted up, and without any thanks or warning, set his forefeet on this Squires breast, and with the force of her body overthrew the Champion, and so stood upon him, keeping him down, holding her grim face and bloody teeth over his face and eyes; a sight no doubt that made him wish himself a thousand miles from her, because to all likelihood they should be the grinders of his flesh and bones, and his first executioner to send his cursed soul to the Devill for denying Jesus Christ his Saviour. Yet it fell out otherwise, for the Lion having been lately filled with some liberal prey did not presently fall to eat him, but stood upon him for her own safegard, and meant so to stand till she was an hungry; during which time, the poor wretch had liberty to gather his wits together, and so at the last, seeing he could have no benefit by his Musket, Sword, or Dagger, and perceiving nothing before him but unavoidable death, thought for the saving of his credit, that he might not die in foolish infamy, to do some exploit upon the Lion whatsoever did betide him; and thereupon seeing the Lion did bestride him, standing over his upper parts, his hands being at some liberty, drew out his long *Barbarian* knife, and thrust the same twice or thrice into the Lions flank: which the Lion endured, never hurting the man, but supposing the wounds came some other way, and would not forsake her booty to look about for the means whereby she was harmed. At last finding her self sick, her bowels being cut asunder within her (for in all hot bodies wounds work presently) she departed away from the man above some two yards distance, and there lay down and dyed. The wretch being thus delivered from the jaws of death, you must think made no small brags thereof in the Court, notwithstanding, he was more beholding to the good nature of the Lion, which doth not kill to eat except he be hungry, then to his own wit, strength, or valour.

The Male Lion doth not feed with the female, but either of them apart by themselves. They eat raw flesh, for which cause the *Grecians* call them *Omesieres*, *Omoboroi*, and *Omophagoi*: the young ones themselves cannot long be fed with milke, because they are hot and dry; being at liberty they never want meat, and yet they eat nothing but that which they take in hunting, and they hunt not but once a day at the most, and eat every second day: whatsoever they leave of their meat, they return not to it again to eat it afterwards, whereof some assigned the cause to be in the meat, because they can endure nothing which is unsweet, stale, or stinking; but in my opinion they do it through the pride of their natures, resembling in all things a Princely majesty, and therefore scorn to have one dish twice presented to their own table. But tame Lions being constrained through hunger, will eat dead bodies, and also cakes made of meal and hony, as may appear by that tame Lion which came to *Apollonius*, and was said to have the soul in it of *Amasis* King of *Egypt*, which story is related by *Philostratus* in this manner.

There was (saith he) a certain man which in a team led up and down a tame Lion like a Dog, whithersoever he would, and the Lion was not only gentle to his leader, but to all other persons that

Their food
and eating.

Albertus.

Avicen.

that met him; by which means the man got much gains, and therefore visited many Regions and Cities, not sparing to enter into the temples at the time of sacrificing, because he had never shed blood but was clear from slaughter, neither licked up the blood of the Beasts, nor once touched the flesh cut in pieces for the holy Altar, but did eat upon Cakes made with meal and hony; also bread, Gourds, and sod flesh, and now and then at customary times did drink wine. As *Apollonius* sat in a Temple, he came unto him in more humble manner, lying down at his feet, and looking up into his face, then ever he did to any, as if he had some special supplication unto him, and the people thought he did it for hope of some reward, at the command and for the gain of his Master. At last *Apollonius* looked upon the Lion, and told the people that the Lion did entreat him to signifie unto them what he was, and wherewithal he was possessed; namely that he had in him the soul of a man, that is to say, of *Amasis* King of *Egypt*, who raigned in the Province of *Sai*. At which words the Lion sighed deeply, and mourned forth a lamentable roaring, gnashing his teeth together, and crying with abundance of tears; whereat *Apollonius* stroked the Beast, and made much of him, telling the people that his opinion was, forasmuch as the soul of a King had entred into such a kingly Beast, he judged it altogether unfit that the Beast should go about and beg his living, and therefore they should do well to send him to *Leontopolis*, there to be nourished in the Temple. The *Egyptians* agreed thereunto, and made sacrifice to *Amasis*, adorning the Beast with Chains, Bracelets, and branches, so sending him to the inner *Egypt*, the Priests singing before him all the way, their idolatrous *Hymnes* and *Anthems*; but of the transfiguration of men into Lions, we shall say more afterward, only this story I rehearsed in this place to shew the food of tame and enclosed Lions.

The substance of such transfigurations, I hold to be either Poetical, or else Diabolical. The food therefore of Lions is most commonly of meek and gentle Beasts, for they will not eat Wolves, or Bears, or such Beasts as live upon ravening, because they beget in them melancholy: they eat their meat very greedily, and devour many things whole without chewing, but then they fast afterwards two or three days together, never eating untill the former be digested; but when they fast, that day they drink, and the next day they eat, for they seldom eat and drink both in one day: and if any stick in his stomach which he cannot digest, because it is overcharged, then doth he thrust down his nails into his throat, and by straining his stomach pulleth it out again; the self same thing he doth when he is hunted upon a full belly: And also it must not be forgotten that although he come not twice to one carcasse, yet having eaten his belly full, at his departure by a wilful breathing upon the residue, he so corrupteth it, that never after any beast will taste thereof: for so great is the poison of his breath, that it putrifieth the flesh, and also in his own body after it is suddainly ripped up, the intrails stink abominably. The reasons whereof I take to be their great voracity which cannot but corrupt in their stomach, and also the seldom emptying of their belly, for they utter their excrements not above once in three days, and then also it is exceeding dry like a Dogs, stinking abominably, and sending forth much winde: and because their urine smelleth strongly, which also they render like a Dog holding up one of their legs: They never make water, but first of all they smell to the tree, I mean the male Lion. They fall upon some creatures for desire of meat, and especially when they are old, and not able to hunt they go to Towns and Villages, to the stables of Oxen, and folds of sheep, and sometimes to men and devour them, wherefore they never eat herbs but when they are sick.

Polybius affirmeth that he saw them besiege and compasse about many Cities of *Africk*, and therefore the people took and hanged them up upon crosses and gallowies by the high wayes to the terror of others. Wherefore as they excell in strength and courage, so also they do in cruelty, devouring both men and beasts, setting up troops of Horsemen, depopulating the flocks and herds of Cattel, carrying some alive to their young ones, killing five or six at one time, and whatsoever they lay hold on, they carry it away in their mouth, although it be as big as a Camel; for they love Camels flesh exceedingly.

And therefore the Lions that set upon the Camels of *Xerxes*, neither medled with the Men, Oxen, nor victuals, but only the Camels: so that it seemeth no meat is so acceptable unto them.

They hate above measure the wilde Asses, and hunt and kill them, according to the saying of the Wiseman, *Leonum venatio onager*; the wilde Ass is the game of Lions, *Ecclus. 13.* They hate also the *Thoes*, and fight with them for their meat, because both of them live upon flesh, of whom *Gratius* writeth;

*Thoes commissos (clarissima fama) Leones
Et subiere astu, & parvis domuere lacertis.*

They eat also Apes, but more for Physick then for nourishment. They set upon Oxen, using their own strength very prudently, for when they come to a stall or herd, they terrifie all, that they may take one. They eat also young Elephants, as we have shewed before in the story of Elephants: and so terrible is the roaring of the Lion, that he terrifieth all other Beasts, but being at his prey, it is said he maketh a circle with his tail, either in the snow, or in the dust, and that all Beasts included within the compasse of that circle, when they come into it presently know it, and dare not for their live passe over it (believe this who that list.)

Ælianus
Philes.

Solinus.

Pliny.
Aristotle.

The cruelty of
Lions.
Leo Afer.
Philes.
Herodotus.

The hatred of
Lions and their
several ene-
mies.

Ælianus.

Ambrosius.

It is also said, that when the Beasts do hear his voice, all of them do keep their standing and dare not stir a foot; which assertion wanteth not good reason, for by terrour and dread they stand amazed. And the writer of the Glosse upon the Prophet *Amos*, upon these words of the Prophet, *Nunquid rugiet Leo in saltu, nisi habuerit prædam?* Will the Lion roar except he have a prey? *Leo* (saith he) *cum famem patitur, si videt prædam dat rugitum, quo audito fera stant fixo gradu stupefactæ*: that is to say, the Lion when he is hungry and seeth his prey roareth, and then all the wilde Beasts stand still amazed.

The drink of Lions.

They drink but little, and also seldom, as we have said already, and therefore *Cyrus* praising good Souldiers in *Xenophon*, useth these words, *Vos famem habetis pro opsonio, & hydropostian de raon teon Leontoon pberetæ*; that is to say, hunger is your shambles, and you are more patient of thirst then

The terrors of Lions and means whereby they perish.

Lions, although you drink water. Notwithstanding this great valiancy of Lions, yet have they their terrors, enemies, and calamities, not only by Men, but also by Beasts, over whom they claim a sovereignty. We have shewed already in the story of Dogs, that the great Dogs in *India* and *Hircania*, do kill Lions, and forsake other Beasts to combat with them. There is a Tygre also called *Lauzani*, which in many places is twice as big as a Lion, that killeth them, and despiseth the huge quantity of Elephants. *Martial* also writeth, that he saw a tame Tygre devour a wilde Lion. A Serpent, a Snake doth easily kill a Lion, whereof *Ambrosius* writeth very elegantly; *Eximia Leonis pulcritudo per comantes cervicis toros excutitur, cum subito a serpente os pectore tenuis attollitur, itaque Coluber cervum fugit sed Leonem interficit*. The splendant beauty of a Lion in his long curled mane is quickly abated and allayed when the Serpent doth but lift up his head to his breast; for such is the ordinance of God, that the Snake which runneth from a fearful Hart, should without all fear kill a courageous Lion; and the writer of *S. Marcellus* life, *Alla O men dracon, &c.* How much more will he fear a great Dragon, against whom he hath not power to lift up his tail? And *Aristotle* writeth that the Lion is afraid of the Swine; and *Rasis* affirmeth as much of the Mouse.

Pliny.

Ambrose.

Animalia solitaria.

The Cock also both seen and heard for his voice and comb, is a terror to the Lion and Basilisk, and the Lion runneth from him when he seeth him, especially from a white Cock; and the reason hereof, is because they are both partakers of the Suns qualities in a high degree, and therefore the greater body feareth the lesser, because there is a more eminent and predominant sunny property in the Cock, then in the Lion.

Lucretius describeth this terrour notably, affirming that in the morning when the Cock croweth the Lions betake themselves to flight, because there are certain seeds in the body of Cocks, which when they are sent and appear to the eyes of Lions, they vex their puples and apples, and make them against nature become gentle and quiet; the Verses are these;

*Quinetiam gallum nocte explaudentibus alis
Auroram clara consuetam voce vocare,
Quem nequeunt rapidi contra constare Leones
Inq; tueri: ita continuo meminere fugai.*

*Nimirum quia sunt gallorum in corpore quedam
Semina; quæ quum sint oculis immissa Leonum
Pupillas interfodiunt, acremq; dolorem
Præbent, ut nequeant contra durare feroces.*

We have spoken already of the *Leontophonus* how she rendreth a urine which poisoneth the Lion; the noises of wheelles and chariots do also terrifie them, according to the saying of *Seneca*, *Leoni pavida sunt ad levissimos strepitus pectora*. The high stomach of a Lion is afraid of a little strange noise. *Anthologus* hath an excellent Epigram of one of *Cybelis* Priests, who travelling in the mountans by reason of frost, cold, and snow, was driven into a Lions den, and at night when the Lion returned, he scared him away by the sound of a Bell. The like also shall be afterwards declared of Wolves in their story.

Ælianus.

Pliny.

Leo Afer.
Their lust of copulation.

They are also afraid of fire, *Ardentesq; faces, quas quamvis seuiat horret*; For as they are inwardly filled with natural fire (for which cause by the Egyptians they were dedicated to *Vulcan*) so are they the more afraid of all outward fire, and so suspicious is he of his welfare, that if he tread upon the rinde or bark of Oke or the leaves of Osyer, he trembleth and standeth amazed. And *Democritus* affirmeth that there is a certain herb growing no where but in *Armenia* and *Cappadocia*, which being laid to a Lion, maketh him to fall presently upon his back and lie upward without stirring, and gaping with the whole breadth of his mouth, the reason whereof (*Pliny* saith) is because it cannot be bruised.

The adultery of Lionesses.

Pliny.

Apollonius.

There is no Beast more desirous of copulation then a Lioness, and for this cause the males oftentimes fall forth, for sometimes eight, ten, or twelve males follow one Lioness, like so many Dogs one salt Bitch: for indeed their natural constitution is so hot, that at all times of the year both sexes desire copulation, although *Aristotle* seemeth to be against it, because they bring forth only in the spring.

The Lioness (as we have shewed already) committeth adultery by lying with the Libbard, for which thing she is punished by her male if she wash not her self before she come at him; but when she is ready to be delivered, she flyeth to the lodgings of the Libbards, and there among them hideth her young ones, (which for the most part are males) for if the male Lion finde them, he knoweth them and destroyeth them, as a bastard and adulterous issue, and when she goeth to give them suck she saigneth as though she went to hunting.

By the copulation of a Lioness and an Hyæna is the *Ethiopian Crocata* brought forth. The *Arctian* Dogs, called *Leontomiges*, were also generated betwixt Dogs and Lions. In all her life long she beareth but once, and that but one at a time, as *Esope* seemeth to set down in that fable, where he expresseth that contention between the Lioness and the Fox, about the generosity of their young ones: the Fox objecteth to the Lioness, that she bringeth forth but one whelp at a time, but he on the contrary begetteth many cubs, wherein he taketh great delight; unto whom the Lioness maketh this answer: *Parere se quidem unum sed Leonem*; that is to say, she bringeth forth indeed but one, yet that one is a Lion; for one Lion is better then a thousand Foxes, and true generosity consisteth not in popularity, or multitude, but in the gifts of the minde joyned with honorable descent. The Lionesses of *Syria* bear five times in their life; at the first time five, afterwards but one, and lastly they remain barren. *Herodotus* speaking of other Lions, saith, they never bear but one, and that only once, whereof he giveth this reason, that when the whelp beginneth to stir in his Dams belly, the length of his claws pierce through her matrix, and so growing greater and greater, by often turning leaveth nothing whole; so that when the time of littering cometh she casteth forth her whelp and her womb both together, after which time she can never bear more: but I hold this for a fable, because *Homer*, *Pliny*, *Oppianus*, *Solinus*, *Philes*, and *Ælianus* affirm otherwise contrary, and besides experience sheweth the contrary.

When *Apollonius* travelled from *Babylon* by the way they saw a Lioness that was killed by hunters. the Beast was of a wonderful bigness, such a one as was never seen: about her was a great cry of the Hunters, and of other neighbours which had flocked thither to see the monster, not wondering so much at her quantity, as that by opening of her belly, they found within her eight whelps, whereat *Apollonius* wondring a little, told his companions that they travelling now into *India* should be a year and eight moneths in their journey; for the one Lion signified by his skill one year, and the eight young ones eight moneths. The truth is that a Lion beareth never above thrice, that is to say, six at the first, and at the most afterwards two at a time, and lastly but one, because that one proveth greater, and fuller of stomach, then the other before him; wherefore nature having in that accomplished her perfection, giveth over to bring forth any more. Within two moneths after the Lioness hath conceived, the whelps are perfected in her womb, and at six moneths are brought forth blinde, weak, and (some are of opinion) without life, which so do remain three dayes together, untill by the roaring of the male their father, and by breathing in their face they be quickned, which also he goeth about to establish by reason; but they are not worth the relating. *Isidorus* on the other side declareth that for three dayes and three nights after their littering, they do nothing but sleep, and at last are awaked by the roaring of their father: so that it should seem without controversie, they are senseless for a certain space after their whelping: At two moneths old they begin to run and walk. They say also that the fortitude, wrath, and boldness of Lions, is conspicuous by their heat, the young one containeth much humidity contrived unto him by the temperament of his kinde, which afterwards by the driness and calidity of his complexion groweth viscous and slimie like bird-lime, and through the help of the animal spirits prevaileth especially about his brain, whereby the nerves are so stopped, and the spirits excluded, that all his power is not able to move him, untill his parents partly by breathing into his face, and partly by bellowing, drive away from his brain that viscous humor; these are the words of *Physiologus*, whereby he goeth about to establish his opinion; but herein I leave every man to his own judgment, in the mean season admiring the wonderful wisdom of God, which hath so ordered the several natures of his creatures, that whereas the little Partridge can run so soon as it is out of the shell; and the duckling the first day swim in the water with his dam, yet the harmful Lions, Bears, Tygres, and their whelps are not able to see, stand or go, for many moneths; whereby they are exposed to destruction when they are young, which live upon destruction when they are old: so that in infancie, God clotheth the weaker with more honor.

There is no creature that loveth her young ones better then the Lioness, for both shepherds, and hunters, frequenting the mountains, do oftentimes see how irefully she fighteth in their defence, receiving the wounds of many Darts, and the stroaks of many stones, the one opening her bleeding body, and the other pressing the bloud out of the wounds, standing invincible, never yielding till death, yea death it self were nothing unto her, so that her young ones might never be taken out of her Den; for which cause *Homer* compareth *Ajax* to a Lioness, fighting in the defence of the carcass of *Patroclus*. It is also reported, that the male will lead abroad the young ones, but it is not likely, that the Lion which refuseth to accompany his female in hunting, will so much abase his noble spirit, as to undergoe the Lionesses duty in leading abroad the young ones. In *Pangius* a mountain of *Thracia*, there was a Lioness which had whelps in her den, the which den was observed by a Bear, the which Bear on a day finding the den unfortified, both by the absence of the Lion and the Lioness, entred into the same and slew the Lions whelps, afterward went away, and fearing a revenge, for her better security against the Lions rage, climed up into a tree, and there sat as in a sure castle of defence: at length the Lion and the Lioness returned both home, and finding their little ones dead in their own bloud, according to natural affection fell both exceeding sorrowful, to see them so slaughtered whom they both loved; but smelling out by the foot the murderer, followed with rage up and down untill they came to the tree whereinto the Bear was ascended, and seeing her, looked both of them gastly upon her, oftentimes assaying to get into

the tree, but all in vain, for nature which adorned them with singular strength and nimbleness, yet had not endued them with power of climbing, so that the tree hindring them from revenge, gave unto them further occasion of mourning, and unto the Bear to rejoyce at her own cruelty, and deride their sorrow.

Then the male forsook the female, leaving her to watch the tree, and he like a mournful father for the losse of his children, wandred up and down the mountain making great moan and sorrow, till at the last he saw a Carpenter hewing wood, who seeing the Lion coming towards him let fall his Axe for fear, but the Lion came very lovingly towards him, fawning gently upon his breast with his forefeet, and licking his face with his tongue; which gentleness of the Lion the man perceiving, he was much astonished, and being more and more embraced, and fawned on by the Lion, he followed him; leaving his Axe behind him which he had let fall, which the Lion perceiving went back, and made signes with his foot to the Carpenter that he should take it up: but the Lion perceiving that the man did not understand his signes, he brought it himself in his mouth and delivered it unto him, and so led him into his cave, where the young whelps lay all embrewed in their own bloud, and then led him where the Lionesse did watch the Bear, she therefore seeing them both coming, as one that knew her husbands purpose, did signifie unto the man that he should consider of the miserable slaughter of her young whelps, and shewing him by signes, that he should look up into the tree where the Bear was, which when the man saw, he conjectured that the Bear had done some grievous injury unto them; he therefore took his Ax and hewed down the tree by the roots, which being so cut, the Bear tumbled down headlong, which the two furious Beasts seeing, they roar her all to pieces: And afterwards the Lion conducted the man unto the place and work where he first met him, and there left him, without doing the least violence or harm unto him.

Ælianus.

The recompence of young Lions to the old.
Tzetzes.

Aristotle.

Albertus.

The love of Lions to their benefactors.

The nature of their revenge.

Pliny.

Solinus.

Neither do the old Lions love their young ones in vain and without thanks or recompence, for in their old age they requite it again, then do the young ones both defend them from the annoyances of enemies, and also maintain and feed them by their own labor; for they take them forth to hunting, and when as their decrepit and withered estate is not able to follow the game, the younger pursueth and taketh it for him: having obtained it, roareth mightily like the voice of some warning piece, to signifie unto his elder that he should come on to dinner, and if he delay, he goeth to seek him where he left him, or else carryeth the prey unto him: at the sight whereof, in gratulation of natural kindness, and also for joy of good success, the old one first licketh and kisseth the younger, and afterward enjoy the booty in common betwixt them.

Admirable is the disposition of Lions, both in their courage, society and love, for they love their nourishers and other men with whom they are conversant: they are neither fraudulent nor suspicious, they never look awry or squint, and by their good wils they would never be looked upon.

Their clemency in that fierce and angry nature is also worthy commendation, and to be wondered at in such Beasts, for if one prostrate himself unto them as it were in petition for his life, they often spare, except in extremity of famine; and likewise they seldom destroy women or children: and if they see women, children, and men together, they take the men which are strongest, and refuse the other as weaklings and unworthy their honor; and if they fortune to be harmed by a Dart or stone by any man, according to the quality of the hurt, they frame their revenge; for if it wound not, they only terrifie the hunter, but if it pinch them further, and draw bloud, they increase their punishment.

There is an excellent story of a Souldier in *Arabia*, who among other his colleagues, rode abroad on geldings to see some wilde Lions: now geldings are so fearful by nature, that where they conceive any fear, no wit or force of man is able by spur and rod to make him to come near the thing it feareth, but those which are not gelded are more bold and courageous, and are not at all afraid of Lions, but will fight and combate with them. As they road they saw three Lions together, one of the Souldiers seeing one of them stray and run away from his fellowes, cast a Dart at him, which fell on the ground neer the Lions head, whereat the Beast stood still a little and paused, and afterward went forward to his fellowes. At last the Souldier road betwixt him and his fellowes which were gone before, and run at his head with a spear, but missed it, and fell from his Horse to the earth, then the Lion came unto him and took his head in his mouth, which was armed with a Helmet, and pressing it a little did wound him, taking of him no more revenge, then might requite the wrong received, but not the wrong intended; for generally they hurt no more then they are harmed.

There is an obscure Author that attributeth such mercy and clemency to a Beast which he calleth *Melosus*, for he persecuteth with violence and open mouth stout men, and all whom he is able to resist, but yet is afraid of the crying of children. It is probable that he mistaketh it for the Lion, for besides him, I have not read of any Beast that spareth young children. *Solinus* affirmeth that many Captives having been set at liberty, have met with Lions as they returned home, weak, ragged, sick, and disarmed, safely without receiving any harm or violence.

And in *Lybia* the people believe that they understand the petitions and entreatings of them that speak to them for their lives; for there was a certain Captive woman coming home again into *Getulia* her native Countrey through many woods, was set upon by many Lions, against whom she used no other weapon but only threatnings and fair words, falling down on her knees unto them,

them, beseeching them to spare her life, telling them that she was a stranger, a captive, a wanderer, a weak, a lean and loſt woman, and therefore not worthy to be devoured by ſuch couragious and generous Beaſts as they: at which words they ſpared her, which thing ſhe confeſſed after her ſafe return: the name of this woman was called *Juba*. Although about this matter there be ſundry opinions of men, ſome making queſtion whether it be true, that the Lion will ſpare a proſtrate ſuppliant, making confeſſion unto him that he is overcome; yet the *Romans* did ſo generally believe it, that they cauſed to be inſcribed ſo much upon the gates of the great *Roman* Palace in theſe two Verſes;

*Iratus recolas, quam nobilis ira leonis;
In ſibi proſtratos, ſe negat eſſe feram.*

Tector.

It is reported alſo, that if a Man and another Beaſt be offered at one time to a Lion to take his choiſe whether of both he will devour, he ſpareth the Man and killeth the other Beaſt. Theſe Lions are not only thus naturally affected, but are enforced thereunto by chance and accidental harmes; as may appear by theſe examples following; *Mentor* the *Syracusan* as he travelled in *Syria* met with a Lion, that at his firſt fight fell proſtrate unto him, rolling himſelf upon the earth like ſome diſtreſſed creature, whereat the man was much amazed, and not underſtanding the meaning of this Beaſt, he indevooured to run away; the beaſt ſtill overtook him, and met him in the face, licking his footſteps like a flatterer, ſhewed him his heel, wherein he did perceive a certain ſwelling, whereat he took a good heart, going unto the Lion, took him by the leg, and ſeeing a ſplint ſticking therein, he pulled it forth, ſo delivering the Beaſt from pain; for the memory of this fact, the picture of the man and the Lion were both pictured together in *Syracusiſ*, untill *Plinies* time, as he reporteth. The like ſtory is reported of *Elpis* the *Samian*, who coming into *Africk* by ſhip, and there going a ſhore, had not walked very far on the Land, but he met with a gaping Lion, at which being greatly amazed, he climbed up into a tree, forasmuch as there was no hope of any other flight, and prayed unto *Bacchus* (who in that Countrey is eſteemed as chief of the Gods) to defend him, as he thought, from the jaws of death; but the Lion ſeeing him to climb into the tree ſtood ſtill, layed himſelf down at the root thereof, deſiring him in a manner, by his heavy roaring, to take pity upon him, gaping with his mouth and ſhewing him a bone ſticking in his teeth, which through greedineſs he ſwallowed, which did ſo pain him that he could eat nothing; at the laſt the man perceiving his minde (moved by a miracle) laid aſide all fear, and came down to the dumb ſpeaking diſtreſſed Lion, and eaſed him of that miſery: which being performed, he not only ſhewed himſelf thankful for the preſent time, but like the beſt natured honeſt man, never forſook ſhore, but once a day came to ſhew himſelf to the man his helper, during the time that they abode in thoſe quarters; and therefore *Elpis* did afterward dedicate a Temple unto *Bacchus* in remembrance thereof. And this ſeemeth to me moſt wonderful, that Lions ſhould know the vertue of mens curing hands above other creatures, and alſo come unto them againſt nature and kinde, but ſo much is the force of evill and pain, that it altereth all courſes of ſavage minds and creatures.

When *Androcles* a ſervant run away from a Senator of *Rome*, becauſe he had committed ſome offence (but what his offence was I know not) and came into *Africa*, leaving the Cities and places inhabited to come into a deſert region: Afterwards when *Androcles* had obtained a Maſter being Conſull of that Province of *Africa*, he was compelled by dayly ſtripes to run away, that his ſides might be free from the blows of his Maſter, and went into the ſolitary places of the fields, and the ſandes of the wilderneſs: and if he ſhould happen to ſtand in need of meat, he did purpoſe to end his life by ſome means or other; and there he was ſo ſchortched with the heat of the Sun, that at laſt finding out a cave, he did cover himſelf from the heat of it therein; and this cave was a Lions den. But after that the Lion had returned from hunting, (being very much pained by reaſon of a thorn which was faſtened in the bottom of his foot) he uttered forth ſuch great lamentation & pitiful roarings, by reaſon of his wound, as that it ſhould ſeem, he did want ſome body to make his moan unto for remedy; at laſt coming to his cave, and finding a young man hid therein, he gently looked upon him, and began as it were to flatter him, and offered him his foot, and did as well as he could pray him to pull out the piece of ſplint which was there faſtened. But the man at the firſt was very ſore afraid of him, and made no other reckoning but of death: but after that he ſaw ſuch a huge ſavage beaſt ſo meek and gentle, began to think with himſelf, that ſurely there was ſome ſore on the bottom of the Beaſt, becauſe he liſted up his foot ſo unto him, and then taking courage unto him, liſted up the Lions foot, and found in the bottom of it a great piece of ſplint, which he plucked forth, and ſo by that means eaſed the Lion of his pain, and preſſed forth the matter which was in the wound, and did very curiouſly without any great fear thoroughly dry it, and wipe away the blood: the Lyon being eaſed of his pain, laid himſelf down to reſt, putting his foot into the hands of *Androcles*.

With the which cure the Lion being very well pleaſed, becauſe he handled him ſo courteouſly and friendly, not only gave him for a recompence his life, but alſo went dayly abroad to forrage and brought home the fatteſt of his prey. *Androcles* whom all this while (even for the ſpace of three years) he kept familiarly, without any note of cruelty or evill nature in his den, and there the Man and the Beaſt lived mutually at one commons, the man roaſting his meat in the hot Sun, and

the Lion eating his part raw, according to kind. When he had thus lived by the space of three years, and grew weary of such habitation, life, and society, he bethought himself of some means to depart; and therefore when the Lion was gone abroad to hunting, the man took his journey away from that hospitality, and after he had travelled three days (wandering up and down) he was apprehended by the legionary Souldiers; to whom he told his long life and habitation with the Lion, and how he ran away from his Master a Senator of Rome; which when they understood, they also sent him home again to Rome to the Senator.

And being received by his master, he was guilty of so great and foul faults, that he was condemned to death, and the manner of his death was, to be torn in pieces of Wild beasts. Now there were at Rome in those days many great, fearful, cruell, and ravening beasts, and among them many Lions: it fortun'd also that shortly after the taking of the man, the aforesaid Lybian Lion with whom he lived long, seeking abroad for his companion and man-friend, was taken and brought to Rome, and there put among the residue, who was the most fierce, grim, fearful, and savage, above all other in the company, and the eyes of men were more fastened upon him then all other beside. When *Androcles* was brought forth to his execution, and cast in among these savage beasts, this Lion at the first sight looking stedfastly upon him, stood still a little, and then came toward him softly, and gently, smelling to him like a Dog, and wagging his tail: the poor examine and forlorn man, not looking for any thing but present death, trembled and was scarce able to stand upright in the presence of such a beast; not once thinking upon the Lion that had nourished him so long, but the Beast *Accepti beneficii memore* mindful of former friendship, licked gently his hands and legs, and so went round about him touching his body, and so the man began to know him, and both of them to congratulate each other in that their imprisoned occurrence, and to signifie to all the beholders their former acquaintance and conversation, the man by stroking and kissing the Lion, and the Lion by falling down prostrate at the mans feet.

In the mean time a Pardall came with open mouth to devour the man, but the Lion rose up against her, and defended his old friend, and she being instant, the Lion toar her in pieces, to the great admiration of the beholders, as it could not otherwise chuse. Then *Cæsar* which had caused those spectacles, sent for the man, and asked him the cause of that so rare and prodigious an event, who incontinently told him the story before expressed. The rumor whereof was quickly spread abroad among the people, and tables of writing were made of the whole matter, and finally all men agreed that it was fit that both the man and the Lion should be pardoned and restored to liberty: and afterward (saith *Appion*) all the people and beholders of that comedy were isuters to the Senat for the accomplishment thereof, and so the man was pardoned, and the Lion was given unto him for a reward or suffrage, who led him up and down the streets in a leam or slip; *Androcles* receiving money, and the Lion adorned with flowers and garlands, and all men that saw or met them said, *Hic est Leo hospes hominis, hic est homo medicus leonis*: Here goeth the Lion which was this Mans Host, and here is the man which was this Lions Physitian.

Seneca also in his book *De beneficiis*, out of *Gellius* writeth so much of another Lion: and indeed there is no man or other Beast more fixed and constant in their love and friendship, or more ready to revenge the breach of amity and kindeness, then is a Lion; as appeareth by this story of *Eudemus*, who writeth of a certain young man, that he nourished together many years a Dog, a Bear and a Lion, who lived in perfect peace and concord without breach, snarling, or appearance of anger. On a day as the Bear and Dog played together and biting one another gently, it happened that the Dog fastened his teeth (in sport) deeper then the Bear could digest, and therefore presently he fell upon him, and with his claws toar out the soft part of his belly, whereof he presently dyed: the Lion sitting by, and seeing this cruelty, and breach of love, amity, and concord among them that had so long lived together, fell to be inflamed to revenge that perfidie, and like a true king of Beasts, measured the same measure to the Bear as he had done to the Dog, and served him with the same sauce, tearing him instantly in pieces.

There is also in the life of *S. Jerome*, a story of a Lion that was cured by him, as you have read before the Lion was by *Elpis*, and that the Beast in gratitude of that good turn, did ever afterward follow the Ass which brought him home his carriage and provision through the woods; till at last the Lion being asleep, the Ass was stolen away, for sorrow whereof, the Lion put himself in the Asses stead, to bear burthens as he did; within short time after he found out the Ass in the theeves stable, and brought him home again; but I am of *Erasmus* minde concerning this story, that the Author thereof took upon him to write wonders and not truth.

The Kings of Egypt and Syria did keep tame Lions, to accompany them into their wars, which were led about their own bodies for their guard and custody, against all peril and invasion.

It is also very pertinent to this place, to express the clemency of these Beasts towards the Martyrs and servants of Jesus Christ, both men and women, that so we may observe the performance and accomplishment of that Prophecie, *Psalm 91. They should walke upon the Asse, and the Cockatrice, and softly tread upon the Lion and the Dragon*: This we are not to attribute to the nature of Lions, but rather to the over-ruling hand of our and their Creator, who in remembrance of his own promise, and advancement of his own glory, stoppeth the mouth of Lions, and restraineth all violence both of living creatures and elements; yet I will not impose any necessity of believing these stories upon the Reader, for I my self report them not for truth, but because they are written.

When

Gellius.

Appion.

A story of the
justice of
Lions.

Ælianus.

Textor.

Diodorus.

The clemency
of Lions in
sparing men.

When *S. Anthony* went about to make a grave for the interring of the carcass of *Poul* the first *Ana-chorite*, and wanted a shovel or spade to turn up the earth, there came two Lions, and with their claws opened the earth so wide and deep, that they performed therein the office of a good grave-maker. The Prophet *Daniel* was cast unto the Lions, to whom (according to the *Babylonian* story) was given for their diet every day, two condemned men, and two sheep, and yet by power of the Almighty whom he served, the Angel of the Lord came down and stopt the Lions mouths, so that in extremity of hunger, they never so much as made force at him, but sat quietly at his feet like so many little Dogs; by which means he escaped all peril and torments of death. *Eleutherius* being cast to the Lions at the command of *Adrian* the Emperor, and *Prisca* a Noble Virgin, at the command of *Claudius Caesar*, both of them in their several times, tamed the untamed Beasts and escaped death.

Macarius being in the Wilderness or Mountains, it fortune'd a Lioness had a den neer unto his cell, wherein she had long nourished blinde whelps, to whom the holy man (as it is reported) gave the use of their eye and sight; the Lioness requited the same with such gratification as lay in her power, for she brought him very many sheep-skins to clothe and cover him. *Primus*, and *Felicianus*, *Thracus*, *Vitus*, *Modestus*, and *Crescentia*, all Martyrs, being cast unto Lions received no harm by them at all, but the beasts lay down at their feet, and became tame, gentle, and meek, not like themselves, but rather like Doves. When a Bear and a Lion fell upon *Tecla* the Virgin, a Martyr, a Lioness came and fought eagerly in her defence against them both. When *Martina*, the daughter of a Consul could not be terrified or drawn from the Christian faith by any imprisonment, chains, or stripes, nor allured by any fair words to sacrifice to *Apollo*, there was a Lion brought forth to her, at the commandment of *Alexander* the Emperor, to destroy her; who as soon as he saw her, he lay down at her feet wagging his tail, and fawning in a loving and fearful manner, as if he had been more in love with her presence, then desirous to lift up one of his hairs against her. The like may be said of *Daria*, a Virgin, in the days of *Numerian* the Emperor, who was defended by a Lioness; but I spare to blot much paper with the recital of those things (which if they be true) yet the Authors purpose in their allegation is most profane, unlawful and wicked, because he thereby goeth about to establish miracles in Saints, which are long ago ceased in the Church of God.

Some Martyrs also have been devoured by Lions, as *Ignatius* Bishop of *Antioch*, *Satyrus* and *Perpetua*, he under *Trajan* the Emperor, and they under *Valerian* and *Galiennus*. In holy Scripture there is mention made of many men killed by Lions: First of all it is memorable of a Prophet, 1 King. 13. that was sent by the Almighty unto *Jeroboam*, to cry out against the Altar at *Bethel*, and him that erected that Altar, with charge, that he should neither eat nor drink in that place.

Men devoured by Lions.

Afterward an old Prophet which dwelt in that place hearing thereof, came unto the Prophet, and told him that God had commanded him to go after him, and fetch him back again to his house to eat and drink; wherewithal being deceived, he came back with him contrary to the commandment of the Lord given to himself: whereupon as they sat at meat, the Prophet that beguiled him, had a charge from God to prophesie against him, and so he did: afterward as he went homeward a Lion met him and killed him, and stood by the corps, and his Ass, not eating of them till the old Prophet came and took him away to bury him.

In the twentieth chapter of the same Book of Kings, there is another story of a Prophet, which as he went by the way he met with a man, and bade him in the name of the Lord to wound and smite him, but he would not, preferring pity before the service of the Lord: Well (said the Prophet unto him) seeing thou refusest to obey the voice of the Lord, Behold as soon as thou art departed, a Lion shall meet thee and destroy thee: and so it came to pass; for being out of the presence of the Prophet, a Lion met him and tore him in pieces.

The Idolatrous people that were placed at *Jerusalem* by the King of *Babel*, were destroyed by Lions; and unto these examples of God his judgements, I will adde other out of humane stories. *Paphagea* a King of *Ambracia*, meeting a Lioness leading her whelps, was suddenly set upon by her and torn in pieces, upon whom *Ovid* made these verses:

*Fata tibi occurrat patrio popularis in arvo,
Sitq; Paphagea causa leana necis.*

Hyas the brother of *Hyades*, was also slain by a Lioness. The people called *Ambraciote* in *Africk*, do most religiously worship a Lioness; because a notable Tyrant which did oppress them was slain by such an one. There is a Mountain neer the River *Indus* (called *Lirius*) of a Shepherd so named, which in that Mountain did most superstitiously worship the Moon, and contemned all other Gods, his sacrifices were performed in the night season; at length (saith the Author) the Gods being angry with him, sent unto him a couple of Lions who tore him in pieces, leaving no monument behind but the name of the Mountain for the accident of his cruel death. The Inhabitants of that Mountain wear in their ears a certain rich stone (called *Clitoris*) which is very black, and bred no where else but in that place.

Ælianus.

Plutarch.

There is a known story of the two *Babylonian* lovers, *Pyramus* and *Thisbe*, who in the night time had covenanted to meet at a Fountain near the sepulchre of *Ninus*, and *Thisbe* coming thither first,

as the fate by the Fountain, a Lions being thirsty, came thither to drink water, (after the slaughter of an Ox :) at sight whereof, *Thisbe* ran away and let fall her mantle, which the Lions finding tore it in pieces with her bloody teeth. Afterward came *Pyramus*, and seeing her mantle all bloody and torn asunder, suspecting that she that loved him, being before him at the appointed place had been killed by some wilde beast, very inconsiderately drew forth his sword, and thrust the same through his own body, and being scarce dead, *Thisbe* came again, and seeing her lover lie in that distress, as one love, one cause, one affection had drawn them into one place, and there one fear had wrought one of their destructions, she also sacrificed her self upon the point of one and the same sword.

There was also in *Scythia* a cruel Tyrant (called *Therodomas*) who was wont to cast men to Lions to be devoured of them, and for that cause did nourish privately many Lions: unto this cruelty did *Ovid* allude, saying:

Therodomanteos ut qui sensere Leones.

And again:

Non tibi Therodomas crudusq; vocabitur Atrous.

Men that have
overcome Li-
ons.

Unto this discourse of the bloud-thirsty cruelty of Lions, you may add the puissant glory of them, who both in Sacred and prophane stories are said to have destroyed Lions. When *Sampson* went down to *Timnath*, it is said, that a young Lion met him roaring to destroy him, but the Spirit of the Lord came upon him, and he tore it in pieces like a Kid; wherein he was a Type of *Jesus Christ*, who in like sort being set upon by the roaring of the Devil and his members, did with facility (through his divine nature) utterly overthrow the malice of the Devil. Afterward *Sampson* went down to the *Philistine* woman whom he loved, and returning, found that Bees had entred into the Lions carcass, and there builded, whereupon he propounded this Riddle; *A voraci exiit cibus, & ex forti egressa est dulcedo*: Out of the devourer came meat, and out of the strong came sweetness.

Benaiah the son of *Jehoiada* one of *David's* Worthies, did in the Winter time in the snow kill a Lion in a ditch: *David* himself feeding his fathers flock, slew a Lion and a Bear which had robbed him of a Lamb.

It is reported of *Perdiccas* (one of the Captains of *Alexander*) a valiant man, that he went alone into the Den of a Lions, but not finding her therein, took away her whelps, and brought them forth to the admiration of all men; for the Lions both among the *Barbarians* and *Græcians* is accounted the strongest and most unresistible beast. In the Northern parts of the World (saith *Pausanias*) near the monuments of *Alcmea* and *Hyllus*, the sons of *Hercules*, there was a Lion which slew many people, and at last also *Euippus* the only son of King *Megareus*; whereat the King grew so sorrowful and angry, thirsting after revenge, that he promised to the man that could overcome him his daughter, and the succession of his Kingdom: There was a noble and valiant young man called *Alcathus*, who undertook the action and killed the Lion, for which thing he obtained both the Wife and the Kingdom according to the promise of *Megareus*, and therefore in thankfulness of so good fortune, he builded there a famous Temple, dedicating it to *Diana Agrotera*, and *Apollo Agreus*.

We have spoken before of *Lysimachus*, unto whom we may add *Polydamas* the *Scotusæan*, who in all things he took in hand, propounded unto himself the example of *Hercules*, and did kill a Lion of monstrous stature and bigness, being unarmed, in the Mountain *Olympus*; as at another time he held a Bulls leg so fast in his hand, that while the Beast strove to loose himself, he left the hoof of his foot behinde him. When *Hercules* was a boy or stripling, he slew the *Teumessian* Lion in *Teumessus* a Mountain of *Beotia*, and pulled off his skin which ever after he wore in stead of a cloke. This Lion is also called a *Nemean* Lion, yet some are of opinion that the *Nemean* Lion, was another called also the *Molorchean*, because having killed the son of *Molorchus* he perswaded *Hercules* which did sojourn with him, to take revenge in his stead.

From whence the *Nemean* Sacrifices is performed by the *Græcians* in remembrance of *Hercules*, and *Lucan* maketh mention of this *Nemean* Lion in this verse:

Si seivum premeres Nemeæum seiva Leonem.

And upon the den of the Lion was a Temple builded and dedicated to *Jupiter Nemeus*. *Varinus* speaking of the *Nemean* Lion, telleth this story thereupon, whereas saith he, the said Lion could not be killed with any sword, dart, or other sharp instrument, *Hercules* tore him in pieces with his hands without all weapons, and afterward wore his skin in remembrance of that victory: It happened on a day, that as he travelled he met with his friend *Telamon*, who wanted children, of whom he was intreated that he would make sacrifice to *Jupiter* for him in that weed or garment, and also intreat for a son. *Hercules* yeilded, and taking the golden censor in his hand, made the sacrifice and supplication to *Jupiter*, that *Telamon* might have a son, and as he sacrificed, an Eagle flew over them, which in *Greek* is called *Aetos*, wherefore when *Hercules* saw the same, he charged *Telamon* that his son should be called *Aetos*; that is, an Eagle: and so he was, but afterward he was called *Ajax*, and

ore

wore continually that Lions skin which was given him by *Hercules*: and therefore he could not be wounded: But I take this to be but a fable: rather this was the truth; *Ajax* was a valiant souldier, and so warily carried himself in many battails, that he never received wound, but at last he flew himself with his own sword, thrusting it through his neck; and for this cause it was fabled, that he never could be wounded, by a vertue (as was imagined) conferred on him from *Hercules*. *Ovid* hath a witty fiction of one *Phyllis*, who fell so deeply in love with a little boy, that at his pleasure he took many wilde Beasts, Birds, and Lions, and tamed them to the delight of his *Amasius*: at length the insatiable Boy required him to do the like by a Bull, which he had overcome, but *Phyllis* denying that request, the Boy presently cast himself down from a Rock, and was afterward turned into a Swan; by which the Poet declareth, the unmerciful regard which wretchless and childish mindes bear towards the greatest labours and deserts of the best men; and that in such society a man is no longer beloved, then he giveth; also the denial of one small request cannot be endured, although a thousand good turns have gone before it; wherefore such mindes may well be transfused into Swans, which forsake their owners and breeders, going and swimming far from their first and proper habitation.

Having but mentioned such a story, it is not exorbitant to add in one word other fictions of Metamorphosing, and transfiguring men into Lions, which we promised in the former discourse of *Amasius* and *Apollonius*, when I discoursed of the food of Lions.

And first of all, it is not unproper to remember the caution of *Timaeus* the *Pythagorean*, who affirmeth, that the mutation of men into beasts, is but a fiction brought in for the terrour of wicked men, who seeing they cannot be restrained from vice, for the love of well doing, they may be deterred for the fear of punishment, which is meant by such beastly transfigurations.

And this thing is thought to be most consonant to the opinion of *Plato*, for in consideration of the habit, and not of the kinde; a good house-keeper, and charitable nourishing man, is said to be transmuted into a tree: He which liveth by catching and snatching, to serve his own concupiscence, into a Kite; he which for love of military discipline and Martial affairs, into a Lion; he that was a Tyrant and a devourer of men, into a Dragon: and *Empedocles* also said, that if a man depart this natural life, and be transmuted into a brute beast, it is most happiest for him if his soul go into a Lion: but if he loose his kinde and senses, and be transmuted into a plant, then is it best to be metamorphosed into a Laurel or Bay-tree. And for these causes we read of *Hippo* changed into a Lion, and *Atlas* into a Lioness, and the like I might say of *Proteus*, of the *Curetes*, and others: and generally all the Eastern wise men believed the transmigration of spirits from one into another, and insinuated so much to their symmists and disciples, making little or no difference betwixt the natures of men and brute beasts. Therefore they taught that all their Priests after death were turned into Lions, their religious Vestals or women into Hyæna's, their Servants or Ministers in the Temples, about the service of their vain Gods into Crows and Ravens; the Fathers of families, into Eagles and Hawks; but those which served the Leontick Altars, meaning *Nemea sacra*, instituted for the honour of *Hercules*, were transformed diversly: but of all these we have already expressed our opinion; namely, to believe and think so basely of mankind, created after Gods Image, as once to conceive or entertain one thought of such passing of one from another, were most lewd and Diabolical; but to conceive them as allegories, by which the mindes of the wise may be instructed in divine things, and God his judgements; as it is Poetical, so is it not against any point of learning, or good Religion.

As that which hath been already expressed most notably describeth the nature of the Lion, which so that succeedeth hath the same use for the manifestation of the dignity and honour of Beasts.

First of all therefore, to begin with his understanding, and to shew how neer he cometh to the nature of man. It is reported by *Alianus*, that in *Lybia* they retain great friendship with men, enjoying many things in common with them, and drinking at the same Well or Fountain. And if at any time he being deceived in his hunting, and cannot get to satisfy hunger, then goeth he to the houses of men, and there if he finde the man at home, he will enter in and destroy, except by wit, policy, and strength, he be resisted; but if he finde no man, but only women, they by railing on him and rebukes, drive him away, which thing argueth his understanding of the *Lybian* tongue. The sum and manner of those speeches and words which he useth to fright and turn them away from entering houses, are these:

Art not thou ashamed, being a Lion, the King of Beasts, to come to my poor cottage to beg meat at the hands of a woman? and like a sick man distressed with the weakness of body, to fall into the hands of a woman: that by her mercy thou mayst attain those things which are requisite for thy own maintenance and sustentation: yea rather thou shouldst keep in the Mountains, and live in them, by hunting the Hare and other Beasts, provided in nature for the Lions food, and not after the fashion of little base Dogs, come and live in houses to take meat at the hands of men and women.

By such like words the enchantment of the mind of the Lion, so that like a reasonable person, overcome with strong arguments, notwithstanding his own want, hunger, and extremity, he casteth his eyes to the ground ashamed and afflicted, and departeth away without any enterprise: Neither ought any judicious or wise man think this thing to be incredible; for we see that Horses and Dogs which live among men, and hear their continual voyces, do discern also their terms of threatening, chiding, and rating, and so stand in aw of them; and therefore the Lions of *Lybia*, whereof many

Men transfigured into Lions according to Poets and fictions.

Olympiodorus.

Porphyrius.

The understanding of Lions.

The understanding of Lions.

many are brought up like Dogs in houses, with whom the little children play, may well come to the knowledge and understanding of the *Mauritian* tongue.

Leo Afer.

It is also said they have understanding of the parts of men and women, and discern sexes, and are indued with a natural modesty, declining the sight of womens privy parts. And unto this may be added the notable story of a Lion in *England*, (declared by *Crantzius*) which by evident token was able to distinguish betwixt the King Nobles, and vulgar sort of people.

The anger of
Lions, and the
signes thereof.
Adamantius.
Albertus.

As the ears of Horses are a note of their generosity, so is the tail of Lions, when it standeth immoveable, it sheweth that he is pleasant, gentle, meek, unmoved, and apt to endure any thing, which falleth out very seldom, for in the sight of men he is seldom found without rage. In his anger, he first of all beateth the earth with his tail, afterwards his own sides, and lastly leapeth upon his prey or adversary. Some creatures use to wag their tails, when they see suddenly those which are of their acquaintance, as Dogs; but Lions and Bulls, do it for anger and wrath. The reason both of one and other, is thus rendred by *Aphrodiseus*. The back-bone of such Beasts is hollow, and containeth in it marrow, which reacheth to the tail, and therefore there is in the tail a kinde of animal motion, and power. For which cause when the Beast seeth one of his acquaintance, he waggeth his tail by way of salutation for the same reason that men shake hands, for that part is the readiest and nimblest member of his body; but Bulls and Lions are constrained to the wagging of their tails for the same reason that angry men are light fingered, and apt to strike: for when they cannot have sufficient power to revenge, they either speak if they be Men, or else bark if they be Dogs, or smite their sides with their tail if they be Lions; by that means uttering the fury of their rage to the ease of nature, which they cannot to the full desire of revenge.

But we have shewed before that the Lion striketh his sides with his tail, for the stirring up of himself against dangerous perils, for which cause *Lucan* compareth *Cæsar*, in his warlike expedition at *Pharsalia*, against his own Countrey, before his passage over *Rubicon*, (whilest he exhorted his soldiers) to a Lion beating himself with his own tail in these verses;

*Inde mora solvit belli, tumidumq; per amnem,
Signa tulit propere: sicut squalentibus arvis
Æstiferæ Lybies, viso Leo cominus hoste,
Subsedit dubius, totam dum colligit iram;
Mox ubi se seve stimulavit verberare caudæ,*

*Erexitq; júbæ, vasto & grave murmur biatu,
Infremuit: tum tortæ levissimæ siliceæ Mauri
Hæreat, aut latum subeant venabula pectus,
Per ferrum tanti securus vulneris exit.*

There are many Epigrams, both *Greek* and *Latine*, concerning the rage, force, friendship, and society of Lions with other beasts, whereof these are most memorable: the first of a Hare, which through sport crept through the mouth of a tame Lion, whereof *Martial* writeth in this sort, teaching her to flee to the Lions teeth against the rage of Dogs in these verses:

*Ridibus hinc Tauros non eripuerit magistri,
Per quos præda fugax itq; reditq; lepus.
Quodq; magis mirum, velocior exit ab hoste,
Nec nihil à tanta nobilitate refert.*

*Tutior in sola non est cum currit arena:
Nec cavea tanta conditur ille fide,
Si vitare canum morsus, lepus improbe, queris,
Ad quæ confugas, ora Leonis habes.*

There is another of the same Poets, about the society of a Ram and a Lion, wherein he wondereth, that so different natures should live together, both because the Lion forgetteth his prey in the Woods, and also the Ram, the eating of green grass, and through hunger, both of them constrained to taste of the same dishes; and yet this is no other, then that which was foretold in holy Scripture, the Lion and the Lamb should play together: the Epigram is this;

*Massyli Leo fama jugi, pecorisq; maritus
Lanigeri, mirum qua posuere fide,
Ipse licet videas, cavea stabulantur in una,*

*Et pariter socias carpit uterq; dapas,
Nec fati memorum gaudent, nec militibus herbis,
Concordem satiat sed rudis agna famem.*

For we have shewed before, that a Lion in his hunger will endure nothing, but fiercely falleth upon every prey, according to these verses of *Manilius*:

*Quis dubitet, vasti quæ sit natura Leonis?
Qualq; suo dicit signo nascentibus artes?
Ille novas semper pugnas, nova bella ferarum
Apparat, & pecorum vivit spolio, atq; rapinis.*

*Hoc habet, hoc studium postes ornare superbos;
Pellibus, & captas domibus configere prædas,
Atq; parare metum sylvis, & vivere rapto.*

The hunting
and taking of
Lions.

Concerning the hunting and taking of Lions, the *Indian* Dogs, and some other strong Hunters do set upon Bulls, Bores, and Lions, as we have said before in the History of Dogs: but Dogs, which are begotten of Tygers, amongst the *Indians*, and those of *Hyrcania*; especially do this thing, as it is noted by *Mantuan*, concerning the fortitude and courage of a Dog, saying:

Et truculentus Helor certare Leonibus audent.

In the Province of *Gingui*, which is subject to great *Cham* King of *Tartaria*, there are very many Lions which are very great and cruel: and in that Region the Dogs are accounted so bold and strong, as they will not fear to invade or set upon those Lions; And it oftentimes cometh to pass, that two Dogs and a hunting Archer sitting on Horse-back do kill and destroy a Lion; for when the Dogs perceive the Lion to be near them, they set upon him with great barking, but especially when they know themselves backed with the help of a man, they do not cease to bite the Lion in his hinder parts and tail: and although the Lion doth oftentimes threaten them with his frowning and terrible countenance, turning himself this way and that way, that he might tear them in pieces, notwithstanding the Dogs looking warily unto themselves, are not easily hurt by him, especially when the hunting Horse-man following them, doth seek the best means to fasten his Dart in the Lion, when he is bitten of the Dogs, for they are wise enough to consider their own help. But the Lion then flyeth away, fearing lest the barking and howling of the Dogs, may bring more company both of Men and Dogs unto him. And if he can he betaketh himself rightly unto some tree, that he may enjoy the same for a place of defence for his back, then turning himself with a scornful grinning, he fighteth with all his force against the Dogs. But the Hunter coming nearer upon his Horse, ceaseth not to throw Darts at the Lion until he kill him: neither doth the Lion feel the force of the Darts until he be slain, the Dogs do unto him so great hurt and trouble.

If a Lion be seen in the time of hunting, being ashamed to turn his back, he doth a little turn away himself if oppressed with a multitude: but being removed from the sight of the Hunters, he doth hastily prepare for flight, thinking that his shame is cleared by concealing himself; and therefore knoweth that the Woods cannot give testimony of his fear.

He doth want in his flight the leaping which he useth in pursuing other Beasts. He doth craftily dissemble and abolish his foot-steps to deceive the Hunters: *Pollux* affirmeth, that if a Hunter do fight against any wilde Beasts, as a Bore, he must not straddle with his legs wide abroad, but keep them together within the compass of a foot, that he may keep his ground stedfast and sure, even as the manner is in Wrestling: for there are some wilde Beasts, as *Panthars* and *Lions*, when they are hunted, and are hindred in their course by their Hunters, if they be any thing near them, do presently leap upon them. But the stroke which is given ought to be directed or levelled right against the breast, and the heart, for that being once stricken is incurable. *Xenophon* saith, in his Book concerning hunting, that *Lions*, *Leopards*, *Bears*, *Pardals*, *Lynxes*, and all other wilde Beasts of this sort which inhabit Desert places (without *Greece*) are taken about the *Pangean* Mountain, and the Mountain called *Cyrtus*, about *Macedony*: some in *Olympus*, *Mysius*, and *Pindus*: some in *Mysia* above *Syria*, and in other Mountains which are fit for the breeding and nourishing Beasts of this kinde. But they are taken partly in the Mountains by poyson of Wolf-bane; for the sharpness of the Region (because that can admit no other kinde of hunting as by Nets and Dogs) but mingling this with that thing in which every wilde Beast delighteth; the Hunters do cast it unto them near the Waters.

There are some also which do descend down in the night time, who are taken in regard that all the ways by which they should ascend unto the Mountains are stopped with Hunt-men, and weapons, neither being so excluded, are they taken without great peril unto the Hunt-men.

There are some also which make pitfals or great ditches in the ground to catch Lions, in the midst whereof, they leave a profound stony pillar, upon which in the night time they tie a Goat, and do hedge the pitfals round about with boughs, lest that it might be seen, leaving no entrance into the same. The Lions hearing the voyce of the Goat in the night, do come unto the place and walk round about the hedge, but finding no place where they may enter, they leap over and are taken.

Oppianus doth describe three manner of ways of hunting Lions, which also *Bellisarius* doth, but he doth describe them my minde very unskillfully.

The first of them is rehearsed out of *Xenophon*; we will notwithstanding also add thereunto *Oppianus*: for he doth in vary both of them. The second is made by fire. The third by whips or scourges.

The first manner of way is therefore as *Gillius* for the most part translateth out of *Oppianus*, in this sort: Where the Hunters of *Lybia* do observe the beaten path or way of the Lion going out of his Den unto the Water, they make a broad and round Ditch near unto it, in the midst whereof they raise up a great pillar, upon this they hang a sucking Lamb; they compass the Ditch round about with a wall of stones heaped together, lest that when the wilde Beast cometh near he perceive the deceit. The Lamb being fastned upon the top of the pillar, doth incitate the hunger-starven heart of the Lion by his bleating, therefore coming near, and not being able to stay longer about the wall, he doth presently leap over and is received into the unlooked for Ditch, in which being now included, he vexeth himself in all the parts of his body, lifting himself up rather at the Lamb, then to go forth, and being again overthrown, he maketh force again. These things *Gillius* affirmeth.

The other manner of hunting by fire, is the device of the people which inhabit about the River *Euphrates*, who hunt Lions after this manner: The Hunters some upon strong Horses, and some upon gray Horses, with glazen eyes, which are most swift, and which dare only meet Lions, when other Horses dare not abide the sight of Lions: other being on foot do set the Nets. Three of them being placed in the snares remain to underprop the Nets, with staves and stakes: one in the middle, all the rest in both the bendings or turnings of the same, so that he which is in the middle can

Paulus.
Venerius.

Three ways to
take Lions.

The second.

can hear both the other at the farther ends: some setting round about in warlike manner, holding pitchy fire-brands in their right hands, and bucklers in their left, for with those they make a very great noise and clamor, and with shewing their fire brands, put the wilde Beasts in an incredible fear: Therefore when all the Horse-men being spread abroad invade the Beasts, and the Foot-men likewise do follow with a great noise: the Lions being terrified with the crying out of the Hunters, not daring to resist, give place: and aswell for fear of fire, as of the men, they run into the nets and are taken: like as fishes in the night time, by fire are compelled and driven into the nets of the fishers.

The third.

The third manner of hunting is done with lesser labour: that is, four strong men armed with shields, and fortified all over with thongs of leather, and having helmets upon their heads; that only their eyes, noses, and lips may appear, with the brandishing of their fire-brands, rustle in upon the Lion lying in his den: he not bearing this indignation, with a gaping and open wide mouth, the lightning or burning of his eyes being inflamed, breaketh forth into a great roaring, and with such celerity rustleth upon them, as if it were some storm or tempest: they with a firm and constant courage abide that brunt: and in the mean while that he coveteth to catch any of them in his teeth or claws, another of them, provoking him behinde doth smite him, and with a loud noise or clamour doth vex him: then the Lion in hast leaving the first which he had taken in his mouth, turneth back his mouth unto the hinder: each of them in several parts do vex him; but he breathing forth warlike strength, runneth here and there, this man he leaveth, that he snatcheth up on high: at the length being broken with long labour, and wearyed, foaming in his mouth, he lyeth down straight upon the ground, and now being very quiet they binde him, and take him from the earth as if he were a Ram. I do also finde that Lions are intricated in snares or traps, bound unto some post or pile, nigh unto some narrow place, by which they were wont to pass.

But *Pliny* saith, that in times past it was a very hard and difficult manner to catch Lions, and that the chiefest catching of them was in Ditches.

In the Mountain *Zaronius* in *Africk*, the strongest men do continually hunt Lions, the best of which being taken, they send them unto the King of *Fesse*: and the King ordereth his hunting in this manner; in a very spacious field there are little hutches built of that height as a man may stand upright in them: every one of these is shut with a little gate; and within standeth an armed man, the Lion being raised, and forced to that place the dores being open, then the Lion seeing the dores open, runneth with great force, which being shut again, he is provoked to anger: Afterward they bring a Bull to combat with him, where beginneth a cruel fight, in which, if the Bull shall kill the Lion, the honour of that day is finished; but if the Lion overcome him, all the armed men, which in number are almost twelve, come forth to fight against the Lion; some of them having Boar-spears of six cubits long: but if the armed men shall seem to overcome the Lion, the King commandeth the number to be diminished, and if on the contrary, the armed men be overcome, the King with his Nobles sitting in an high place to see the hunting kill the Lion with Cross-bows; but it cometh oftentimes to pass, that every one of them is slain before the Lion.

Leo Afer.

The reward of those which combat with the Lion, is ten golden Crowns, together with a new garment: neither are any admitted unto this fight, except they are of a most pregnant and valorous strength, and horn in the Mountain *Zalag*, but those which do first of all provoke and give on-set to the Lions, are born in the Mountain *Zaronius*.

Pliny.

To conclude this discourse of the hunting of Lions. If it fortune that he be followed with men and Dogs, yet in the plain fields he never mendeth his pace, as some writers affirm, oftentimes turning about and looking upon his pursuers, as it were to dare their approachment, and to give defiance unto all their pretences: yet having gotten the thickets, he looketh to his safety with his best celerity and speed, so wisely tempering his fear before his foes, that it may seem a boldness, and so politickly when he thinketh no eye seeth him, no longer dissembleth with himself, but runneth away like a fearful Hart, or Hare, laying down his ears, and striking his tail betwixt his legs, like a Cur-dog, seldome times looking behinde him, but most irefully upon those that come before him, especially if he receive from them any wound, whereunto *Horace* alluded, saying:

Aristotle.
Albertus.

*Quid ut noverca me intueris,
Aut ut petita ferro bellua?*

In his course he spareth no Beast that he meeteth, but falleth upon it like a mad Dog, (except Swine) for he is afraid of their bristles; and if a man do not attempt to wound him, he will snatch at him, and overthrow him, but do him little harm; according to these verses of *Ovid*:

*Corpora magnanimo satis est prostrasse Leoni:
Pugna suum finem, cum jacet hostis, habet.*

He observeth most vigilantly the hand that woundeth him, and laboureth to take revenge for the evil turn, and so it remaineth in his minde, till opportunity send him his adversaries head: as may appear by this story following.

When

When *Juba* King of *Mors* (the Father of him which when he was a childe was brought in triumph) travelled through the Wilderness with an Army of souldiers, to repress certain rebels in one part of his Dominion, which had shaken off his government, and to settle them again in their first allegiance. There was a noble young Souldier in his Train, of the race of the Nobility, and not only very strong, but also well experienced in hunting, and by the way he with other of his fellows met with a Lion, at whom he presently cast a Dart, and gave him a fore wound, but not mortal; after the wound received, the Lion went away guilty of his hurt, and the young men did not prosecute him, but went forward on their journey: After a whole year, the King returned homeward the same way, and his company that he carried with him, among whom was this young gallant that wounded the Lion: The Lion having recovered his hurt, and having his Den near the way and place of his harm, perceiving a return of the Army, went furiously among them, and found out the man whose hand had wounded him, and could not by any help of his associates be stayed from a revenge, but tore the young souldier in pieces and departed away safe, for the residue seeing his rage, ran all away, thinking him to be some Devil in the likeness of a Lion.

After the taking of Lions, it followeth that we should intreat of their taming, and first of all, they which are tamed in their infancy while they are whelps, are most meek and gentle, full of sport and play, especially being filled with meat; so that without danger, a stranger may meet with them: but being hungry, they return again to their own nature, for as it is true (which *Seneca* saith) *Leonibus manus magister inserit, osculatur Tigrim suus custos*, that is to say; The Master of a Lion may put his hand in his mouth, and the Keeper of a Tyger may kiss him, yet is it also to be feared, *Tigres Leonesque nunquam feritatem exuunt, aliquando submitiunt, & cum minime expectaveris, torvis maligna redibit*. Lions and Tygers do never leave off their wildeness, although sometimes they yeeld, and seem to be submits, yet upon a sudden when a man expecteth not, their malignant wrath breaketh forth, and they are exasperated.

Wherefore after they grow to be old, it is impossible to make them utterly tame; yet we read in divers stories of tame Lions, whether made so from their littering, or else constrained by the Art of man, such are these which follow; *Hanno* had a certain Lion, which in his expeditions of war carried his baggage, and for that cause the *Carthaginians* condemned him to banishment, for said they, *Male credi libertas ei, cui in tantum cessit etiam feritas*. It is not safe to trust such a man with the government of the Common-wealth, who by wit, policy, or strength, was able to overcome, and utterly to alter the wilde nature of a Lion: for they thought he would prove a Tyrant, that could bring the Lion to such meekness, as to wait on him at Table, to lick his face with his tongue, to smooth his hand on his back, and to live in his presence like a little Dog.

The *Indians* tame Lions and Elephants, and set them to plough. *Onomarchus* the Tyrant of *Cattana*, had Lions with whom he did ordinarily converse. In the Countrey of *Elyma* there was a Temple of *Adonis*, wherein were kept many tame Lions which were so far from wildeness, and fierceness, that they would imbrace and salute the people that came in there to offer: Also if any one called them to give them meat, they would take it gently, and depart from them with quietness. Likewise in the Kingdom of *Fes*, in a plain called *Adecjen*, there are certain Forrests wherein live tame and gentle Lions, which if a man meet, he may drive away with a small stick or wand without receiving any harm. And in another region of *Africk*, the Lions are so tame, that they come daily into Cities, and go from one street to another, gathering and eating bones; from whose presence neither women nor children run away. Likewise in many parts of *India*, they have Lions so tame, that they lead them up and down in leams, and accustom them to the hunting of Boars, Bulls, and wilde Asses, like Dogs; for their noses are as well fitted for that purpose, as the best Hounds; as we have shewed before of the King of *Tartary*.

And the best means of taming them is the rule of *Apollonius*, which he said was the precept of *Pharoates*, which is, that they be neither handled too roughly, nor too mildly, for if they be beaten with stripes, they grow over stubborn; and if they be kept in continual flatteries, and used over kindly, they grow over proud: For they held opinion, that by an equal commixtion, of threatening, and fair speaking, or gentle usage, by which means they are more easily brought to good desired conditions: and this wisdom the Ancients did not only use in the taming of Lions, but also in restraining of Tyrants, putting it as a bridle to their mouths, and a hook in their nostrils, to restrain them from fury and madness.

Albertus saith, that the best way to tame Lions, is to bring up with them a little Dog, and oftentimes to beat the same Dog in their presence, by which discipline the Lion is made more tractable to the will of his Keeper. It is said of *Helioabalus*, that he nourished many tame Lions, and Tygers, and other such noisome beasts, calling himself their great mother; and when he had made any of his friends drunk in the night time, he shut them up together (who quickly fell asleep) through the heaviness of their heads, who being so asleep, he turned in amongst them some of his fore-said children, both Lions, Bears, Tygers, and such like: at whose presence in the morning, his drunken friends grew so amazed, that oftentimes, some of them fell dead for fear: and to conclude, there is a story in a certain Epigram, of a Lion wandering abroad in the night time, for the avoiding of frost, and cold, came into a fold of Goats: at the sight whereof the Goat-herds were much afraid, calling in question not only the lives of the flock, but also their own; because every one of them, thought himself bound to fight unto death in defence hereof: whereupon

according to the manner of men in extremity, they all made their prayers, desiring God to be delivered from the Lion, and according to their wishes so it came to pass; for after the Lion had lodged in the warm fold of Goats a whole night, he departed in the morning, without doing any harm to man or beast; wherefore I take this Lion to be of the tame kinde, and as in all beasts there are differences both of natures, and inclinations, as we may see in Dogs, some of them being more apt after the manners of men, and to be ruled by them then others; so also I see no reason, but that in the fierce, and royal nature of Lions, some of them should be more inclinable to obedience, subjection, and submission; whereunto being once won, they never afterwards utterly shake off their vassalage and yoke of them which overcome them.

The triumphs,
games and
combates with
Lions.

Plutarch.
Pliny.

From hence it came, that there were so many spectacles at Rome; as first of all *Lucius Sylla*, in the office of his aedility, or oversight of the Temple, brought into the Roman circle, or ring, one hundred great maned Lions loose, which always before that time, were turned in bound or muffled. And King *Bochus* sent so many valiant Archers, and Dart-casters, to fight with them and destroy them. After him *Pompey the great*, in the same place brought in a combate, consisting of six hundred great Lions, and among them there were three hundred fifty maned Lions: Also he instituted hunting of Lions at Rome, wherein were slain five hundred. *Cæsar* when he was Dictator, presented in spectacle four hundred Lions. *Quintus Scaevola* caused Lions to fight one with another. But *Marcus Antonius* in the civil War, after the battail of *Pharsalia*, did first of all cause Lions to be yoked, and draw the Chariot of triumphs; where he himself sat, with one *Citharus* a Jester: which thing was not done, without shew and observations of a prodigious and monstrous action, and especially in those times, wherein it was interpreted, that as the noble spirits of those Lions were so much abased, and vassalaged, instead of Horses to draw a Chariot, they being in nature the King of Beasts, so it was feared that the ancient Nobility of Rome, the grave Senators, and gallant Gentlemen, Commanders of the whole Common-wealth, should in time to come, through civil wars, and pride of the people, be deprived of all honour, and brought down to the basest offices of the whole State. *Antoninus Pius* nourished a hundred Lions. *Domitian* the Emperor, called for *Acilius Gabrio* the Consul, into *Albania*, about the time that the games were celebrated, for the prosperity of youth and young men, which were called *Juvenalia*, to fight with a great Lion, and *Acilius* coming wisely into the combate, did easily kill him. In ancient time when Lions could not be tamed, they did discern them by their teeth, and nails, and so taking as it were the sting and poyson from the Serpent, and the weapons wherein consisteth all their strength, they were without all peril, sent into the publick Assemblies, at the time of their general meetings, and great feasts. *Martial* hath an excellent Epigram, of the great Lion before exhibited in publick spectacle by *Domitian*, wondering that the *Massilian* and *Ausonian* shepherds were so afraid of this Lion, and made as great a noise, and murmur, about his presence, as if he had been a heard of Lions, and therefore he commendeth the *Lybian* Countrey for breeding such a beast, and withal expresseth the joy of the shepherds for his death, as are shown in these verses following:

*Auditur quantum Massyla per avia murmur,
Innumero quoties Sylva Leone furit:
Pallidus attonitus ad plena mapalia pastor
Cum revocat tauras, & sine mente pecus:
Tantus in Ausonia fremuit modo terror arena;
Quis non esse gregem crederet? unus erat,
Sed cujus tremere ipsi quoque jura Leones,
Cui diadema daret marmore picta Nomas.*

*O quantum per colla decus, quem spar sit honorem
Aurea lunata cum stetit unda jubæ!
Grandia quam decuit lotum venabula pectus,
Quantaq; de magna gaudia morte tulit?
Unde tuis Lybie tam felix gloria sylvis?
A Cybeles nunquid venerat ille jugis?
An magis Herculo Germanice misit ab astro
Hanc tibi vel frater, vel pater ipse feram?*

Tame Lions
become wilde
again.

We have shewed already that Lions although never so well tamed, become wilde again, and that through hunger, which breaketh through stone walls, according to the common proverb, and therefore maketh them to destroy whatsoever cometh in their way, according to these verses of *Virgil*;

*Impastus ceu plena Leo per ovilia turbans,
(Suadet enim vesena fames) manditq; trahitq;
Molle pecus, mutumq; metu, fremit ore cruento.*

Such a one was the Lion of *Borsius* Duke of *Ferrara*, who being in his cave would devour Bulls, Bears, and Boars, but with a Hare or little Whelp he would play, and do them no harm; at last leaving all his tamable nature, he destroyed a young wench, who oftentimes came unto him to combe and stroke his mane, and also to bring him meat and flowers, upon whom *Stroza* made these two verses;

*Sustulit ingratus cui quondam plurima debens
Petendaq; jubas, & fera colla dabat.*

The like unto this also, was the tame Lion that *Martial* speaketh of, who returning to his first nature, destroyed two young children, and therefore he saith justly, that his cruelty exceedeth the cruelty of war; the Epigram is this:

*Verbera securi solitus Leo ferre magistri,
Inseratq; pati blandus in ora manum,
Dedidit pacem subito, feritate reversa,
Quanta nec in Lybicis debuit esse jugis.*

*Nam duo de tenera puerilia corpora turba,
Sanguineam castris que renovabat lumen,
Sævus & infelix furiæ dente peremit,
Martia non vidit majus arena nefas.*

Having thus spoken of the taming and taking Lions, it also now followeth to entreat of the length of their life, and the diseases that are incident unto them, with their several cures: first therefore, it is held that they live very long, as threescore, or fourscore years: for it hath been seen, that when a Lion hath been taken alive, and in his taking received some wound whereby he became lame, or lost some of his teeth, yet did he live many years; and also it is found that some have been taken without teeth, which were all fallen out of their head through age, and *Ælianus* saith, that a Lion and a Dolphin, do both consume away through multitude of years. The sicknesses wherewithal they are annoyed, are not very many, but those which they have are continual: for the most part their intrails or inward parts, are never sound, but subject to corruption, as may appear by their spittle, and also by their biting, and scratching of their nails; for a man lightly touched by them at some times is as much poysoned, as the biting of a mad Dog; also by reason of his extreme hot nature, every each other day he suffereth one sickness or other, at which time he lyeth prostrate upon the earth, roaring not all the day long, but at certain hours, and in his wrath he is consumed through the heat inclosed in his own body. And in his best estate he is afflicted with a quartane Ague, even then when he seemeth to be in health, and except this disease did restrain his violence and malice by weakning of his body, he would be far more hurtful to mankind then he is: and this is to be understood, in the Summer time he falleth into this disease sometime at the sight of a man, and is cured by the blood of Dogs, according to *Albertus* and *Physiologus*, when he feelth himself sick, through abundance of meat, he falleth a vomiting, either by the strength of nature, or else helpeth himself by eating a kinde of grasse, or green corn in the blade, or else rapes; and if none of these prevail, then he fasteth, and eateth no more till he finde ease; or else if he can meet with an Ape, he devoureth and eateth his flesh, and this is the principal remedy and medicine which he receiveth against all his diseases, both in youth and age; and when he groweth old, being no more able to hunt Harts, Boars, and such beasts, he exerciseth his whole strength in the hunting and taking of Apes, whereupon he liveth totally; and for these causes, there is a comparison betwixt the Lion and the Dolphin, in *Ælianus*. *Leoni, & Delphino multa sunt communia, uterq; imparat, ille terrenis, hic aquatilibus bestiis, senectute ambo tabescunt, & cum sunt in ægritudine, illi terrestres simia medetur, huic marina quoq; simia remedio est:* that is, the Lion and the Dolphin do agree in many things, both of them are Kings, this ruleth over the beasts of the Earth, and that over the beasts of the Sea; both of them consume through age, and long life; and as the Lion recovereth by eating an Ape of the Earth, so is the Dolphin cured by eating an Ape of the Sea; and thus much for the diseases and cures of Lion.

The length of
a Lions life,
and their dis-
eases.

Albertus.

Cardan.

Unto this natural discourse of Lions belongeth the use of their parts, both outward and inward, and also the several pictures and statues erected for their singular monuments. First therefore with the skins of Lions were the ancient *Moors* and *Barbarians*, inhabiting betwixt the Mountain *Caucasus* and the River *Cophena*, and so they appeared to *Apollonius* and his companions; as also in the skins of Panthers, with both which, they did not only clothe themselves in the day time, but also slept upon them in the night; and therefore *Hercules* is pictured wearing a Lions skin that the world might be admonished, what was the antient attire of their fore-fathers. *Virgil* describeth *Aventinus* covered with a Lions skin in this sort:

The use of a
Lions several
parts.

*Quem fulva Leonis
Pellis obit tatum præfulgens unguibus aures.*

And again:

*Ipse pedes tegit: n torquens immane Leonis,
Terribili impexum seta, cum dentibus albis,
Indutus capiti, &c.*

And *Æneas* sleeping upon a Lions skin, saying:

Fulviq; insternor pelle Leonis.

And elsewhere,

*Præcipuumq; toro, & villosi pelle Leonis
Accipit Aeneam.*

Adrastus was commanded by the Oracle to marry his Daughters to a Boar and a Lion, when they came wooing unto them. Whereupon *Tydeus* came in a Boars skin, and *Polynices* in a Lions skin, unto whom he gave his Daughters in marriage, taking it to be the meaning of the Oracle, that men clothed in those skins should be the Husbands of his Daughters. From hence came the common proverb; *Induitis me Leonis exuvium*, you put upon me a Lions skin, to signifie a man that taketh upon him more then he is able to perform, and spend more then their condition will afford, and the beginning of the proverb was taken from *Hercules*, who clothed in a Lions skin

Ridiculous
imitation.

skin as we have said before, and bearing in one hand a Club, and in the other a Bow, in which attire he went down to Hell to fetch out *Cerberus*.

Afterwards there was one *Bacchus*, which clothed with the same weed, and armed with the same weapons in like sort, in the imitation of *Hercules*, went down to Hell, to hear the fained disputation betwixt the two Poets, *Euripides*, and *Aeschylus*, at the sight whereof *Hercules* laughed, telling him, that such apparel did nothing at all become him, because he was wanton, tender, and effeminate. For it is not available to have a rich ceremony, and want the true substance; a glorious outside, and a shameful inside; the armour of a Champion, and the heart of a base Coward; the outward shews of holiness, and the inward love of profaness. Others do think that the proverb was taken from that *Afs* called *Astinus Cumanus*, who being weary of his servitude and bondage, slipped collar, and ran away into the wilde Woods, where finding by chance a Lions skin, he crept into it, and wore it upon his body, under colour whereof he ruffed up and down the Woods, to the terrour of all the Beasts, both with his tail and his fearful voice: and the *Cumanes* themselves, which had never seen a Lion, were not a little afraid of this counterfeit beast. In this fashion he domineer'd a good time, until at last there came a stranger to *Cuma*, who seeing the counterfeit personate *Afs-lion* by the way, having oftentimes seen both Lions and *Afses*, knew it for an *Afs* in a Lions skin; for if all other conjectures failed, yet this proved true, namely the length of his ears; wherefore he beat him well, and brought him home to his Master, before whom he pulled off the Lions skin, and then his Master knew him to be his *Afs*. From which *Socrates* concludeth wisely, that no man ought to be afraid of outward greatness, because though the *Afs* was clothed with a Lions skin, yet he was but an *Afs*. And that the skins of Lions was used in garments, the saying of *Lyander* the *Lacedemonian* doth sufficiently prove; for when he was blamed for his outward pomp, whereby he beguiled others, therefore condemned for foolish hypocrisie, he made this answer, *Quo Leonis pervenire pellis non potest, vulpinam affuisse decuerit*, every man ought to have two sutes of apparel, one of a Fox, and another of the Lion. For whither the Lions skin cannot come, the Fox will creep, and where the Fox cannot come, the Lion can. Clothes wrapt in a Lions skin killeth moths: also a mans body anointed with the fat of a Lion mingled with Garlick, so as the savour of the Garlick may overcome the Lions grease, he shall never be molested with Wolves. Also if the folds of Sheep be compassed about with the melted grease of Lions, there is no Wolf, nor ravening beasts will annoy the flock. And so great is the fear of Lions to Wolves, that if any part of a Lions grease be cast into a Fountain, the Wolves never dare to drink thereof, or to come near unto it. Also *Pliny* affirmeth, that if an Amulet be made of Lions grease, no man shall be harmed, wounded, or killed, by treachery or deceit: but you must understand, that this was an invention of the Magicians or Wise men, that by such pretences and promises of great matters, they might insinuate themselves into the favour of Princes and Noble men, and so make fools of the world; and therefore they prescribe the fat which is taken from betwixt the eye-lids, or from the right part of their mouth or teeth, and the hairs from the neather chap. It is likewise affirmed, that a man anointed all over with the bloud of a Lion, shall never be destroyed by any wilde Beast.

Caelius.

The fat of Lions.

Rafis.

Albertus.

Marcellus.

Sextus.

Magical Physick
for to be
invincible.

There is an herb which *Democritus* calleth *Helianthe*, growing in the Maritime Mountains of *Cilicia*, and *Themiocira*, wherewithal the fat of Lions decocted with Saffron, and Paulm Wine, with which all the Kings of *Persia* were anointed, to make them beautiful bodies to look upon. And above all other things, the Magicians prescribed this composition, to make a man invincible; the tail and head of a Dragon, the hairs of a Lions fore-head, and the marrow of his bones, the spume or white mouth of a conquering Horse, bound up together with a Dogs claws in a Harts skin, with the nerves of a Hart or Roe. The dung of a Lion drunk in Wine, maketh a man for ever more to abhor Wine.

It was also wont to be observed, that when Lions forsook the Mountains and Woods, to come and live in fruitful and fertil soils, it did fore-shew some great drought; and the like divination did *Agarista* the Mother of *Pericles* make upon her dream, when she was with childe, for she thought she brought forth a Lion, and so in short time after she brought forth *Pericles*, who was a valiant man, and a great Conqueror in *Gracia*. The sight also of a Lion as a man travellet by the high ways, is very ominous, and taken for an evil signe. There was also a Prophesie given out by *Pythias*, concerning *Cypselus*, the son of *Aetion*, which said in this manner; *Leone quod pelli non potest, vulpinam affuisse decuerit*.

Alex. ab Al.

*Concipit in petris aquila enixura Leonem
Robustum, seuum, genua & qui multa resolvet.
Hec bene nunc animis versate, Corinthia proles,
Qui colitis pulchram Pallenem, altamq; Corinthum.*

A monster
like a Lion.
The Images
and several sta-
tues of Lions.

In the year of our Lord 1274. there was a certain Noble woman in the Bishoprick of *Kosnizer*, which brought forth a childe like to a Lioness in all parts, but it had the skin of a man: Unto this discourse I may add the Images of Lions, both in Temples, and also upon shields; and first of all in the Temple where the shield of *Agamemnon* hung up, (as *Paucennius* writeth) there was the picture (Fear,) drawn with a Lions head, because as the Lion sleepeth little, and in his sleep his eyes be open; so is the condition of Fear; for we have shewed already, that the Lion when he sleepeth hath his eyes open, and when he waketh he shutteth them, and therefore the Ancients did symbolically picture

picture of a Lion upon the doors of their Temples, and upon the Ships also, in the fore-part of *Cælius*.
 them, they ingraved the figure of Lions, according to this saying of *Virgil*:

Anthologius.

Aeneia puppis
Prima tenet rostro, Phrygius subjecta Leones.

It was also a usual custom to picture Lions about Fountains and Conduits, especially among the Egyptians, that the water might spring forth of their mouths, *Quoniam Nilus arva Egypti novam aquam invehit, sole transeunte Leonem*; because that Nilus did overflow the fields of Egypt, at what time the Sun passed through the sign Leo. Therefore also the River *Alpheus* was called *Leontias poros*, the Lions fountain, because at the heads thereof, there were dedicated the pictures of many Lions. There was a noble Harlot called *Leana*, which was acquainted with the tyrannies of *Harmodius*, and *Aristogiton*; for which cause she was apprehended, and put to grievous torments, to the intent she should disclose them, but she endured all unto death, never betraying any part of their counsel: After her death, the Athenians devising how to honour that virtue, and because she was a Harlot or common Curtizan, they were not willing to make a statue for her in the likeness of a Woman, but as her name was *Leana*, that signifieth a Lioness, so they erected for her the picture of a Lioness; and that they might express the virtue of her secrecie, they caused it to be framed without a tongue. Upon the grave of *Lais*, there was a covering containing the picture of a Lion, holding a Ram in his fore-feet by the buttocks, with an inscription that a Lion held the Ram; so do Harlots hold their lovers, which *Alciatus* turned into this Epigram:

Varinus.

Pausanias.

Athenensis.

Quid sculptus sibi vult aries, quem parte Leana
Unguibus appensum posteriore tenet?
Non aliter captos quod & ipsa teneret amantes,
Vir gregis est aries, clune tenetur amans.

There was also a Lion at *Delfos*, which weighed ten talents of gold; and at the entrance of *Thermopylae* upon the Tombe of *Leonides* the Captain of the Spartans, there stood a Lion of stone: Upon the steps of the Capitol of Rome, there were two Lions of black Marble touch-stone. And the *Cyziceni* ingraved upon one side of their money the picture of a Lion, and on the other side the face of a woman. King *Solomon* built his Ivory Throne upon two Lions of Brass; and upon the steps or stairs ascending up to that Throne were placed twelve Lions, here and there. And from hence it came, that many Kings and States gave in their Arms the Lion, Rampant, Passant, and Regardant, distinguished in divers colours in the fields of Or, Argent, Azure, and Sables, with such other terms of Art. The Earth it self was wont to be expressed by the figure of a Lion; and therefore the Image of *Atergas* was supported with Lions. *Cybele* the fained Goddess of the Mountains was carryed upon Lions. And it is fained that the *Curetes*, which nourished *Jupiter* in *Crete*, who was committed to them by his mother *Rhea*, by the anger of *Saturn*, were turned into Lions, who afterwards by *Jupiter* when he reigned, were made the Kings of beasts, and by him enjoined to draw the Chariot of his Mother *Rhea*, according to this verse;

Agricola.

Oppianus.

Varinus.

Ei junctæ currum Domine subiere Leones.

There is a constellation in Heaven called the Lion, of whom *Germanicus* writeth in this sort, that he is the greatest and most notable amongst the signes of the Zodiack, containing three stars in his head and one clear one in his breast, and that when the Sun cometh to that signe which happeneth in the month of *July*, at which time the vehement heat of Summer burneth the earth, and dryeth up the Rivers. And therefore because the Lion is also of a hot nature, and seemeth to partake of the substance and quantity of the Sun, he hath that place in the Heavens. For in heat and force he excelleth all other beasts, as the Sun doth all other stars.

The constellation of the Lion.

In his breasts and fore-part he is most strong, and in his hinder-part more weak, so is the Sun, encreasing until the noon or fore-part of the year, until the Summer, and afterwards seemeth to languish towards the setting, or later part of the year called the Winter. And the Lion also seemeth always to look up with a fiery eye, even as the Sun which is patent with the perpetual and infatigal sight upon the earth. The Lion also is a signification of the Sun, for the hairs of his mane do resemble the streaming beams of the Sun, and therefore this constellation is styled with the same Epithets that the Lion and the Sun are, as heat-bearing, æstive, ardent, arant, calent, hot, flammant, burning, *Herculean*, mad, horrible, dreadful, cruel, and terrible. It is feigned of the Poets, that this Lion was the *Nemean Lion* slain by *Hercules*, which at the commandment of *Juno* was fostered in *Arcadia*, and that in anger against *Hercules* after his death, she placed him in the heavens.

Macrobius.

To conclude this story of the Lions, it is reported of the Devils called *Onosceli*, that they slew themselves sometimes in the shapes of Lions and Dogs, and the Dog of *Serapis*, which was feigned to have three heads, on the left side a Wolfs, on the right side a Dogs, and in the middle a Lions. We have shewed already, that the people called *Ampraciote*, did worship a Lioness, because

Lions nourished
in Temples, &
worshipped.

because she killed a Tyrant. And the Egyptians builded a City to the honor of Lions, calling it *Leontopolis*, and dedicating Temples to *Vulcan* for their honor. And in the porches of *Heliopolis*, there were common stipends for the nourishing of Lions.

As in other places where they are fed daily with Beef, and have also windowes in their lodgings, with great Parkes and spaces allotted unto them for their recreation and exercises: with an opinion that the people that came unto them to offer and worship them, should see a speedy revenge, through divine judgement upon all those that had wronged them by perjury, or broken the oath of fidelity.

To conclude, in holy Scripture we finde that our Saviour Christ is called the Lion of the tribe of *Judah*; for as he is a Lamb in his innocency, so is he a Lion in his fortitude. The Devil also is called a roaring Lion, because Lions in their hunger are most of all full of fury and wrath. And so I will conclude and end this story of Lions with that Emblem of *Alciatus*, describing how little Hares did rejoyce and leap upon dead Lions:

*Æcidæ moriens percussu cuspidis Hector,
Qui toties hostes vicerat ante suos;
Comprimere haud potuit vocem insultantibus illis,*

*Dum curru & pedibus necere vincla parant.
Distrahite ut libitum est: sic ossa luce leonis
Convellant barbam vel timidi Lepores.*

The medicines of the Lion.

*Albertus.
Sextus.*

The blood of a Lion being rubbed or spread upon a Canker, or upon a sore which is swelled about the veins, will presently and without any pain cure and ease the grief thereof. Whosoever doth anoint his body all over with the blood of a Lion, may safely and without any danger travel amongst any wilde beasts whatsoever.

Æsculapius.

The flesh of a Lion being eaten either by a Man or Woman which is troubled with dreames and fantasies in the night time, will very speedily and effectually work him ease and quietness. The same also being boyled or baked, and given to them which are distraught of their wits to eat, doth bring them ease and comfort, and renew their wits again: it is also very good for the pains of deafness or the ears. And being taken in drink, it helpeth those which are troubled with the shaking of the joynts or the Palsie.

Galen.

Whosoever shall have shoes made of the hide or skin of a Lion or Wolf, and wear them upon his feet, he shall never have any pain or ach in them. They will also defend him that useth them from the Gowt, or swelling in the feet or legs. The skin or hide of a Lion is also very good for either Man or Woman which are troubled with the piles or swelling of the veins, if they shall but at some several times sit upon it.

The fat of a Lion is reported to be contrary to poison, and venomous drinks, and being taken in Wine, it will by the sent expell all wilde Beasts from any one; and it doth also resist and drive away the sent or smell of Serpents, by which they follow men to destroy them. Whosoever doth anoint his body all over with the tallow or sewer of the reins or kidney of a Lion, shall by the sent and savour thereof expell and drive away from him all Wolves, how greedy and ravenous soever they be.

Rasis.

A Man being thoroughly anointed with the greafe of a Lion being melted, doth drive away from him and put to flight any living creature whatsoever, and also venomous and poisonous Serpents themselves.

If any wilde Beast be anointed with the tallow or sewer of a Lion which is dissolved and clarified, he shall neither be troubled with the stinging of Flies or Bees. The fat or greafe of a Lion being mingled with Oyl of Roses doth keep the skin of the face free from all blastings and blemishes, being annointed thereupon, and doth also preserve the whiteness thereof, and being mingled with Snow-water, doth heal any flesh which is burnt or scorched upon a man, and doth also cure the swelling of the joynts.

The sewer or fat of a Lion being mingled with other ointments, and anointed upon the places of either Man or Woman who have any blemishes in any part of their bodies, doth presently expell the same. The same virtue hath the dung or dirt of a Lion being mixed with the aforesaid unguent.

The greafe of a Lion being dissolved and presently again conglutinated together, and so being anointed upon the body of those who are heavie and sad, it will speedily extirpate all sorrow and grief from their hearts. The same also being mixed with the marrow of a Hart and with Lettice, and so beaten and bruised, and afterwards mingled all together, is an excellent remedy against the shrinking of the Nerves and sinews, and the aches of the bones and knuckles about the legs, being anointed thereon.

The greafe of a Lion by it self only, mixed with a certain ointment, is also very profitable to expell the Gowt. The same being mingled with Oyl of Roses, doth ease and help those which are troubled daily with Agues and Quartern Fevers. The same also being dissolved and powred into the ears of any one which is troubled with any pain in them, will presently free him from the same.

There

There is also in this Lions greafe, another excellent virtue which is this, that if the jawbone of any one be swelled and anointed over with this greafe being melted, it will very speedily avoid the pain thereof.

The fat or sewet of a Lion being melted and mixed with certain other things, and so mingled unto any one that is troubled with the wringing of the bowels, and bloody flux, in the same manner as a glyster is used, is commended for an excellent remedy for the same. The same also being mingled with a certain Oyl and warmed together, and anointed upon the head of any one, whose hair doth shed, or is troubled with the Foxes evill, doth immediately help and cure the same. The seed of a Hare being mixed with the fat of a Lion, and anointed upon the privie members of any one, will stir and incitate them up to lust, how chaste soever they shall be. *Galen.*

The fat of a Lion mingled with the fat of a Bear, and melted together, being anointed upon the belly, doth allay and assuage the hardness thereof, as also any other pain or grief in the same. *Myresius.*

The brains of a Lion, as also of a Cat, being taken in drink, doth make him mad unto whom it is given. The same being mingled with some small quantity of Oyl of Spike, and powred or distilled into the eares of any one which is deaf or thick of hearing, will very effectually cure the deafness. *Albertus.*

If the eye teeth of a Lion be hung about the neck of a young childe before that he cast his teeth, and the beginning of his second or new teeth, they will keep him for ever from having any ach or pain in them. The heart of a Lion being beaten into small powder, and taken in drink, doth very speedily cure and heal those which are troubled with Agues or Quartain Fevers. *Rasis.*

The liver of the Lion being dried, and beaten to powder, and put in the purest wine which is possible to be gotten, and so drunk, doth take away the pain and grief from any one which is troubled with his liver. *Pliny.*

The gall of a Lion being taken in drink by any one, doth kill or poison him out of hand. But some do impute this venom to be in the gall of a Leopard. The gall of a Lion being mixed with pure water, and anointed upon the eyes of any one, will take away the blemishes thereof, and cause them to see clearly: and the fat of the Lion being added thereunto, is an excellent remedy against the Falling sickness. A very little part or dram of the gall of the Lion being put in wine and so drunk, will speedily help and cure those which are troubled with the Yellow Jaundise. The same disease is also cured by yellow Carets being stamped and put in wine, and so given in drink. *Betrutius.*

For the sores or blemishes in the eyes, the gall of a Lion being mingled with Hony, and so anointed upon them, is commended for a very special and effectual cure or healing. The gall of a Lion, a Bear, or an Ox being mixed with certain other unguents, is very much used for the extending or moving forward of conception. *Albertus.*

The right stone of a Lion being beaten together with Roses, and so strained hard untill some liquid juyce or water doth proceed from them, and so taken in drink, doth make that party barren unto whom it is given: it hath the like effect in it, if it be eaten either roasted or broyled, or raw and bloody. *Galen.*

The fat which proceedeth from the privy or secret parts of a she Lion being put in a vessell made of Ivory, and so being temperately mollified, is commended for a very effectual and speedy means to hinder conception. *Rasis.*

The dung or dirt of a Lion being dried into powder, and mixed with some certain soft and easie ointment, with which any one may be easily anointed over all his body, doth drive away the blemishes and spots in the skin. *Aetius.*

The hurts or sores which are bitten either by a male or female Lion, are so full of matter and filthy corruption, that the running thereof can be stayed and repressed neither by lapping of clothes about them, nor by washing them by sponges: they are cured by the same means as the sores which are bitten by ravenous Dogs are, as I have before declared in the cures of the Hyæna. *Albertus.*

The wounds which are made by the teeth of a Lion are very hurtful; for as much as the venome of their interior parts doth go into the wounds, and when the wounds are tied, the venome issueth from them into the things with which they are tied, and the same bindings being again bound upon the wound, doth so infect it, that it can be cured by no other means but by the afore-said medicine. *Aristotle.*

The bitings of Lions and such like Beasts are so dangerous, in regard of their strength and fierceness, for they do not only bite, but also wreath and tear the wounds which they make with their teeth or nails. And thus much shall suffice for the cures of the Lion.

Of the LINX.



The picture of a Linx once in the Tower of London, which was first described by Doctor Cay.



The names of the Linx,

THe wilde Beast which among the Germans is named *Luchs*, by making a name from the Linx, or as others write *Lux*, or *Luxs*: amongst the Italians is at this day called *Lupo cervero*, or *Cervero*, being engendered betwixt a Hinde and a Wolf; and likewise amongst the Rhetians which speak Italian: and the Sabaudians, and the Dalmatians or Illyrians, *Cerviro*. But there was a certain Bohemian of late, which declared that the Linx as he conjectured, was called among the Illyrians, *Rys*, (and that it was called *Luchs* among the Germans) but that amongst the Illyrians was lesser then the other, yet very like. The Spaniards do as yet call him by the Latin name *Lince*, even as certain Italian writers in their vulgar tongue, as *Alunus* doth testifie. In certain places in Helvetia, and about *Sedunus*, they call him *Thierwolf*. Amongst the barbarous writers he is called by the name of an Ounce; which I do suppose to be a Panther. *Fr. Alunus* doth say, that this Beast was called of certain Italian writers in the vulgar tongue, *Lonzza*, some interpreting it to be a Lioness, some a Pardal, a Panther, or a Wolf, engendered of a Hinde and a Wolf.

Ounces

Ounces do commonly seem to be called rather Linxes then Panthers; but although some late *Belonius.* writers do attribute the name to a Leopard or a lesser Panther, it seemeth notwithstanding corrupt from the Linx: for he is a creature very like him both in his craft and shape of his body, but a Linx hath his tail shorter, and his longer. *Libards-bane* doth kill Leopards and Linxes. *Avicenna.*

These Figures were taken by Olaus Magnus, wherein the Linx pursueth a wilde Cat.



The *Latins* call this beast *Lupus Cervarius*, and *Lynx* of the *Greek* word *Lux*, from whence the *German*, *ein Luchs*: and it hath been believed, that the *Latin* name was given unto it, because they were ingendred betwixt a Wolf and Hind, but there is no wise man that will suppose or be easily induced to believe, that Beasts of such hostility, and adverse dispositions in nature, should ever ingender or suffer copulation together; and therefore I rather suppose that it is called *Cervarius*, either because it hunteth Harts and Hinds, or else because it imitateth their young ones in the outward colour and spots in the skins. *The reason of the Latine names.*

There was a Beast (saith *Pliny*) which was called *Chaus*, and by the *French*, *Raphlus*, brought in publick spectacle by *Pompey* the great, out of *France*, which in shape resembleth a Wolf, and in spots a Leopard; and therefore I think that *Chaus*, *Raphlus*, and *Lupus Cervarius*, are divers names of one and the same wilde Beast, and yet by divers writers it is confounded with the *Thoes*, or with the Panther, or with the Ounce.

But I cannot agree thereunto, seeing it is written by *Pliny*, that about the River *Padus* in *Italy*, there are certain Beasts called *Lynxes*, from whence cometh the *Lyncurion*, which by *Zenobius* are called *Lange*, and by others *Languria*. And *Solinus* also agreeth thereunto, taking *Lupus Cervarius*, for a kind of Linx.

Some have fabled that there is a Beast called *Lynceus*, which *Suidas* and *Varinus* call *Oxurdercher*: and they say, that the eyes of it are the best sighted of all the Beasts in the world. *Oppianus* maketh two kind of Linxes, one a greater, and hunteth Harts and great Beasts; the other a smaller, and hunteth wilde Cats and Hares. And first of all I will set down the description of this Beast, according as it was taken in *England* by that learned Physitian *D. Cay*, whose words I do here expresse. *Two kinds of Linxes.*

There is in the Tower of *London* (saith *John Cay*) a Beast which eateth flesh, his whole body being of the greatnes of a Lamb of two moneths old, having his head, mouth, feet, and nails like to a Cat. But concerning his beard and tail, his beard hangeth down on both sides, divided in the middle with sundry colours, the former being white, and the latter black; his tail is short and thick, being from the middle to the uppermost part red, and to the lower part black; his eyes being yellow, the hair of the eye-lids obscurely waxing white. His ears erected upright, as the ears of a Cat, being replenished within with white hair, without covered with white and black, but so that the upper part is black, the middle (for it is divided into three parts) be white, and the lowest black again. Neither is it content to be ended in his own course, except also that his former parts, or the farthest brinks or edges, and also his latter may be bended on the other side, in like manner as the edges of the Priests hat of the *Grecian* Church are folded amongst the *Venetians*. *A story of a Linx by D. Cay, taken in England by the sight of this beast in the Tower.*

In the top of his ears there are placed some black hairs, as it were a foretop or tuft. The colour of this beast in the outmost parts is red, in the innermost white, but sprinkled here with black spots, and almost by rowes, and there with spots somewhat lighter then the other, all his hair being for the most part white all over: all his body, except the aforesaid spots, as in certain black skins of young Conies. And on both the sides of his nose in order. In both his lips, as now we will declare: in his uppermost being of a very equall distance.

In the first row, and the upper, four; in the second, five; in the third, eight; in the fourth, five; in the fifth, there are four; and these also every one in his order, having an equall distance. In the lower lip there are only seven more manifest and evident, being placed in two rowes. In the first, four, to the very mouth of the lip; in the second after them three others; after these, other lesser but not placed with so certain and true order as the uppermost.

In the upper lip on both sides there are certain white hairs being rougher then those in Cats and Lions. His nose is somewhat of a pale red colour, being somewhat distinct or apart from the rest of his face on every side with a black line. Another line also doth divide the outermost part of his nose by length (as in an Ounce) but only being lightly lead by the top or highest parts, not impressed higher by the lowermost.

The skin of his feet are exceeding hard, and his nails are hid in his feet (as the nails of an Ounce and a Cats are) neither doth he put them forth at any time, unlesse in taking of his prey as they do.

He doth climb wonderfully, so that what he may be able to do in that thing (either in his cave or den) nature her self doth teach. He is a quick-moving creature, and cannot stand still in a place, so that except (by meer chance) the voice of a Wood-pecker in the basket of a certain Countrey man (who came then only to see the Lions) had made him quiet and attentive, there had been no hope of the portraiting out the picture of his body. He being present he was most quiet; but he going away, he would never stand still: wherefore I was constrained to send my man after the Countreyman to buy the bird, which being present, he stood very still untill the business was dispatched and the work absolutely perfected.

Our Countrey men call it *Luzarne*, it is doubtful whether we should call it *Leunce*, or *Lynx*, in the affinity of the words. His skin is used by Noble men, and is sold for a great price. He is angry at none but them which offer him injury; his voice is like a Cats, when he would snatch away the food from his fellow. He is loving and gentle unto his keeper, and not cruell unto any man. *So far Doctor Cay.*

Another description taken by the sight of a skin.

Unto this description of Doctor *Caius*, I may add another description that was taken by the sight of the skin of this Beast. The length whereof from the tip of the nose unto the very tail, was four spans and five fingers, and the length of the tail seven fingers, the breadth of the shoulder-blades of his back, and the top of his neck, was two palmes six fingers and a span; the length of his forelegs, a span and five fingers; and the length of his hinder-legs, a span and three fingers; the hair was very soft, but yet thick and deep, the tips of the hair upon his back were white, but in the neathermost parts they were red, and they are most white which fall downwards on both sides from the middle of his back.

In the middle they are more red and duskie, the middle of the belly, and especially the lower part is white, but both sides of it are white and red, and every where upon his belly there are black spots, but most plentiful in the bottom of the belly, and on both sides. The uppermost part of his neck, right over against his ears, hath great black spots, his ears are small, and not bigger then a little Triangle, in the edges they are black, although with the black hairs there are mingled some white. His beard is mixed with black and white hair, which hair is great like to bristles. The teeth are most white, and the upper canine teeth hang over the neather breadth of a finger, whereof six are small, and of those six two are the greatest, and all the residue are very small on the neather chap; and to conclude, all the teeth were like a common Weasils or Martil. His feet were very rough, being five distinct claws upon the fore-feet, and four upon the hinder, which claws were very white and sharp.

The price of a Linxes skin. Countries of Linxes.

The tail was of equall bigness and thicknes, but in the tip thereof it is black. These skins are sold for three Nobles a piece, and sometimes for six, and sometimes for lesse, according to the quantity of the skin and Countrey wherein it is sold. And unto this description do *Bellonius* and *Bonarius* agree. For *Bellonius* at Constantinople saw two *Linxes*, much like unto Cats; and *Bonarius* had oftentimes seen them hunted in *Moschovia*, *Lituania*, *Polonia*, *Hungaria*, and *Germany*; but he commendeth above all the *Linxes* of *Scotland* and *Swesia*, as most beautiful, having Triangular spots upon their skins. But the *Indian* and *African* *Linxes*, he saith have round spots, sharp-bristly short hair, and full of spots on all parts of their body, and therefore they are not so delicate as the *Linxes* of *Europe*. which with good cause he conjectureth to be the *Linx* that *Pliny* speaketh of, and not unlike to that which is bred in *Italy*. There are *Linxes* in divers Countries, as in the forenamed *Russia*, *Lituania*, *Polonia*, *Hungary*, *Germany*, *Scotland*, so also they are most abundant in *Scandinavia*, in *Swesia*, so also about *Hyelsus*, and *Helsingia*: likewise in all the Regions upon the *Alpes*, and in *Sylva Martia*, they are also very plentiful in *Ethiopia*, in *France* and *Italy*, about the River *Padus*, and in the Island *Carpathus*. And thus having discoursed of their Countrey and proportion, whereby their differences and kinds may be discerned, we will leave every one of them to their particular, and proceed to the treatise and description of their general natures.

There is no great difference betwixt their outward shapes and proportion, for both the smaller and the greater have bright eyes, divers coloured skins, a little head, a nimble and chearful face, and their body is longer then the body of a Wolf, but their legs shorter, mistaking they stand forth of their heads very far, their tongue like the tongue of a Wolf, that they have paps or udders in their Breasts, but surely he

There

Their meat goeth into the belly straight through the maw, without staying, and therein is a note of their insatiable voracity, for none but insatiable Beasts or Birds are so affected, as in Birds, the *Cormorant*. It hath no ankle bone, but a thing like unto it; the nails are very long, as you may see in two of the former pictures, but he hideth them within his skin till he be angry, ready to fight or climb, or otherwise affected, as you may see by the picture of the Linx taken in the Tower of London.

The inward proportion and anatomy of their bodies is like unto a man, and therefore *Galen* giveth this lesson to students in Physick, *Præstat simiarum homini quam simillimarum artus dissectare, cum te in exemplo exercere institueris, sine ea non detur, aliquam ei proximam deligito, aut si nulla omnino Simia reperitur, Cynocephalum, vel Satyrum, vel Lincem, summatim ea omnia, quibus artuum extrema in digitos quinque discreti sunt; that is to say, It is good to dissect those bodies which are likeliest to a man, when one would instruct himself in Anatomy, and if he cannot finde an Ape, let him take a Baboon, a Satyr, or a Linx, and generally any creature, the extremity of whose sinews and joynts are divided into five fingers or toes.*

There be some that have thought, that Panthers, Pardals, Linxes, or Tygers, had been all of the kinde of Cats, because of mutual resemblance in the greatness and strength of their nails, in the distinction of their skins, which are partly coloured and fair, having also a round head, a short face, a long tail, a nimble body, a wild-mind, and get their meat by hunting: but herein I leave every man to this own best liking and opinion: for when we have done our best to expresse their natures and several properties, it shall be idle to spend time about disputation to what rank or order every beast ought to be referred. For every one that readeth our story, and seeth our pictures may either be satisfied, or else amend our labour.

The Linx therefore biteth most cruelly and deep, and therefore is accounted, *Rapax animal, instar lupi, sed callidius*, a Beast as ravening as a Wolf, but more crafty; they get up into trees, and from them leap down upon very great beasts, and destroy them, being enemies both to men and beasts, and at their pleasure, according to necessity, set upon both.

They are taken sometimes in *Germany*, in the Dutchy of *Wertinberg*, and that it was once credibly affirmed, one of them leaped down from a tree upon a Countrey man, as he passed under the same tree, but being weary, and having an Ax on his neck, received her on the sharp edge thereof, and so killed her, otherwise she would soon have killed him.

They live in the mountains also, where they are killed by poison, or else hunted by armed men on Horse-back, and included with multitudes, for their hunting is perilous, and therefore they must be inclosed with great company. Some take them with ditches, as we heard before Lions were taken; others in snares or gins laid upon the rocks, and stones, and whensoever they are hunted with Dogs, they run directly to the woods or to the next trees, wherein they are killed by gun shot.

In the Summer time they are very weak and live among the Rockes, never straying far from their own lodging, hurting no man untill the Autumn. They hunt wilde Goats, whom they follow from Rock to Rock, leaping as fast or faster then the Goats. They hunt also wilde Cats and Hares, and some other little Beasts; but the greatest Linxes hunt Harts and Asses, and their manner is, as we have said already, to get up into trees, and there to lie in wait for their prey, untill they espy it under the boughs, and then suddenly leap into the neck thereof, whether it be a Man or a great Beast, wherein they fix their claws so fast, that no violence can shake them off, but with the sharpness of their teeth, bite into the scull, and eat out the brains, to the utter destruction of the Man or Beast, whomsoever they light upon, but if it be a small Beast, they eat the whole body thereof, and not only the brains.

Yet this is a wonderful secret in their nature, that although they be long afflicted with hunger, yet when they eat their meat, if they hear any noise, or any other chance cause them to turn about from their meat, out of the sight of it, they forget their prey notwithstanding their hunger, and go to seek another booty, never remembring that which they had before them, nor yet return back again to eat thereof. The voice of this Beast is called by a speciall word in *Latin*, *Orcare*, or *Corcare*, which I may *English* Croaking, or Whining, for the voice thereof is not great, and therefore the Author of *Philomela* saith, *Dum Linces orcando fremunt, ursus ferus uncat*; While the Linx croaketh, the wilde bear whineth. And *Arlunus* saith, *Corcare vox lupi Cervarii*; to croak is the voice of a Linx.

It is thought that of all Beasts they see most brightly, for the Poets saign, that their eye sight pierceth through every solid body, although it be as thick as a wall: yet if you offer unto it any thing which is transparent, it is much offended, and sometimes blinded, but I cannot tell, whether the sight be attributed to the Linx truly according to nature, or fabulously in imitation of the Poetical fiction of *Lyneus*, of whom it was said in ancient time, that he saw through stone wals, of whom *Horace* writeth thus:

*Si possis oculo, quantum contendere Lynceus,
Non tamen idcirco contemnas lippus innigi.*

Marcus Tullius also saith in this manner, in the admiration of *Lyneus* eye-sight, as though darkness did not hinder it, *Quis est tam Lynceus qui in tantis tenebris nihil offendat?* *Apollonius* saith, that so great

The actions
and dispositi-
ons of Linxes;
Stumfus.

The place of
their abode.

Their meat of
food.

Olaus Mag.

A singular
note of torge-
fulness;
Pliny.
Solinus.

The voice of
Linxes.

The sight of
Linxes.

The fables of
the Poets about
Lynceus.

Theocritus.

Caelius.

Palephatus.

N. Spreng.
Their urine
and tears or
weeping.
Urine congealed
into a medicinal
stone.

great was the perfection of this mans eye-sight, as he was believed to see perfectly down into the earth, and what was done in Hell. *Plutarch* saith, that he could see through trees and rocks. *Pausanias* writeth, that he was a King, and raigned after *Danaovita*. *Pyndarus* writeth, that *Ida* and *Lynceus* were the sons of *Aphareus*, and that a contention growing betwixt *Ida*, and *Castor*, and *Pollux* at the marriage of *Helena* because they twain would have ravished *Phæbe* and *Illyra*, the wives of *Ida* and *Lynceus*; *Ida* did therefore slay *Castor*, and afterwards *Lynceus* slew *Pollux* when he spied him lie under an Oake, from the mountain *Taygetus*. Wherefore *Jupiter* slew *Ida* with lightning, and placed *Castor* and *Pollux* in heaven among the stars. There was another *Lynceus* husband of *Hypermetra*, Daughter of *Danaus*, which *Danaus* having commanded all his Daughters in the night time to kill their Husbands, she only spared her husband *Lynceus*. But the truth is, that *Lynceus* of whom there is so many fables of his eye-sight, was the first that found out the mines of Gold, Silver and Brasse in the earth, and therefore simple people seeing him bring Gold and Silver out of the earth, and coming now and then upon him while he was digging deep for it, using the light of Candles, which he never brought out of the pits, they foolishly imagined, that by the light of his eyes he was first of all led to seek for those treasures, and from hence came the common proverb, *Lynceus perspicacior*, for a man of excellent eye-sight. And to conclude, others say, that *Lynceus* could see the new Moon the same day or night that she changed, and that therefore the fame of his eye-sight came so to be celebrated, because never any mortall man saw that sight, himself excepted. And from these fables of *Lynceus* came the opinion of the singular perspicacity of the Beast *Linx*: of whom as I said before, as the sight is very excellent, and so far excelling men (as *Galen* saith) like as is also the sight of *Eagles*, so I do not hold any such extraordinary and miraculous sense to be in this beast, after any other manner, then the Poets did saign it to be in *Lynceus*, except as before said, *Omnes imbecilliore sumus cernendi potestate, si aquilarum & Lynceis acuminibus conferamur*. And therefore the proverb before spoken of, may as well be applyed metaphysically to the Beast *Linx*, as Poetically to the man *Lynceus*; and so much may suffice for the sight. It is reported also that when they see themselves to be taken, they do send forth tears and weep very plentifully. Their urine they render all backwards, not only the female but the male also, wherein they differ from all other Beasts: and it is said of them, that they knowing a certain virtue in their urine, do hide it in the Sand, and that thereof cometh a certain pretious stone called *Lyncurium*, which for brightness resembleth the Amber, and yet is so congealed and hardned in the sand, that no Carbuncle is harder, shining like fire; wherewithal they make sealing Rings, which caused *Ovid* to write thus;

*Vitæ racemifero Lynceus dedit India Baccho,
E quibus, ut memorant, quicquid vesica remisit
Vertitur in lapides, & congelat aere tacto.*

But they say that of the male cometh the fiery and yellow Amber, and of the female cometh the white and pale Amber. In *Italy* they call it *Langurium*, and the Beast *Languria*, and *Langs*. This *Lyncurium* is called of some *Electrum*, *Pterygophoron*, and they say it is the same which will draw unto it leaves, straw, and plates of Brasse and Iron, according to the opinions of *Diocles* and *Theophrastus*, and that being drunk out of water is good for the stomach, and very convenient for the flux of the belly, according to *Dioscorides*; and that it cureth the pains of the reins, and healeth the Kings evill, according to *Solinus*: And *Theophrastus* goeth about to establish this opinion by reason, and laboreth to perswade it as probable, that the urine of a *Linx* should congeal into a stone among sand, as well as the urine of a man, to ingender a stone in the reins or in the bladder.

And of this opinion is *Pliny*, *Theophrastus*, *Hesychius*, *Varinus*, *Zenothimis*, *Plutarch*, and *Aristotle*. But in my opinion it is but a fable: For *Theophrastus* himself confesseth that *Lyncurium*, which he calleth *Lyngurion*, and Amber *Hualos*, is digged out of the earth in *Lyguria*. *Sudines* and *Metrodorus* say that there is a certain tree in *Lyguria*, out of which Amber is taken, and this tree is the black Popler, and it is also very probable, that seeing this Amber was first of all brought into *Greece* out of *Lyguria*, according to the denomination of all strange things, they called it *Lyngurium* after the name of the Countrey, whereupon the ignorant *Latins* did saign an etymology of the word *Lyncurium*, quasi *Lynceis urinam*, and upon this weak foundation have they raised that vain building; and for further demonstration of this truth, *Dioscorides* saith in his discourse of the Popler, that it groweth about the River *Eridanus*, sendeth forth a certain humor like tears, which groweth hard, whereof they make that which is called *Electrum*, being rubbed, it smelleth sweet, and for that it hath not only power to draw unto it Brasse, Iron, and such things, but also Gold, it is also called *Chrysophoton*; unto this *Lucianus* subscribeth: and whereas it was said that in *Italy* this Amber-stone is begotten, neer the River *Padus*, where stand many white Poplers; my conjecture is, that some such like humor may issue out of them, and not only by accident, but through affinity of nature, and condensate into a stone, which the people finding, covered in the sand under the trees, and through their former perswasion, might easily take it for the stone engendred by the urine of the *Linx*.

Mushrooms
grow out of a
stone.

Hermolaus also writeth this of the *Lyncurium*, that it groweth in a certain stone, and that it is a kind of Mushroom, or *Padstool* which is cut off yearly, and that another groweth in the room of it, a part of the root or foot being left in the stone, groweth as hard as a flint, and thus doth the stone encrease, with a natural fecundity: which admirable thing, (saith he) I could never be brought to believe, untill I did eat thereof in mine own house.

Enax (as it is recited by *Sylvaticus*) saith that the urine of the Linx, *dimi servatus*, generat *optimos fungos supra se quotannis*, reserved at home in ones house, bringeth forth every year the best *Mushrooms*. This is also called *Lapis Litzi*, and *Lapis prastus*, which is divided into three kindes, that is, *Jaspis*, *Armeniacus*, and *Lapis phrygius*, called also *Belemintes*; wherewithal the Chirurgians of *Prussia* and *Pomerania*, cure green wounds, and the Physitians break the stone in the bladder. But the true *Lyncurium* which is extant at this day, and currant among the Apothecaries, is as light as the Pumice-stone, and as big as filleth a mans fist, being of a blackish colour, or of a russet; the russet is more solid, sandy, and fat, and being bruised or eaten, tasteth like earch: both kindes are covered with little white skins, and there is apparent in them, a spongy tenacious substance, and this I take to be the *Mushroom* whereof *Hermolaus* speaketh. And by the little stones and small skins, it may be conjectured to be *Corpus heterogenes, in terra coalescens*: A *Hetrogenean* body encreasing in the earth, wherewithal it hath no affinity.

There was another stone of the urine of a Linx to be seen in *Savoy*, the substance whereof was clearly crystal, the form of it was triangular, the hardness so, as you might strike fire with it, and the colour partly white, and partly like Wine mingled with water; so that I will conclude, that the urine of a Linx may engender a stone, though not in such manner as is before said. For the *Arabian* *Jorath* affirmeth, that within seven dayes after the rendring, it turneth into a stone; but it is not the *Lyncurium* properly so called, for that is the Amber or Gum before spoken of, although catachrestically so called.

And if it be true, that there be certain *Mushrooms* neer the Red-sea, which by the heat of the Sun are hardned into stones, then also it may follow very naturally, that those stones may produce *Mushrooms* again, for both the dissolution and the constitution of things are thought to be grounded upon the same principles. And thus much shall suffice for the urine of the Linx, and the stone made thereof.

The skins of Linxes are most pretious, and used in the garments of the greatest estates, both Lords, Kings and Emperors, as we have shewed before, and for that cause are sold very dear. The claws of this Beast, especially of the right foot, which he useth in stead of a hand, are enclosed in silver, and sold for Nobles a piece, and for Amulets to be worn against the falling sickness. The love of these beasts to their young ones is very great, like as the Pardals, Lions, and Tygers. The King of *Tartaria* hath tame Linxes which he useth in hunting, in stead of Dogs. The antient Pagans dedicated this Beast to *Bacchus*, feigning that when he triumphed in his chariot of Vine branches, he was drawn by Tygers, and Linxes. And therefore *Virgil* saith;

Uses of their
several parts;
Eberus.

Linxes tamed.

Quid Lynces Bacchi varia, ———

And *Ovid*;

Diſta racemiſero Lynceas dedit India Baccho.

All the nails of a Linx being burned with the skin, beaten into powder, and given in drink, will very much cohibite and restrain abominable Lechery in men: it will also restrain the lust in women being sprinkled upon them: and also very effectually and speedily take away either itch or scurf in man or womans body. The urine of this Beast is accounted very medicinable for those which are troubled with the Strangury, and running of the reins.

The medicines
of the Linx.

The same is also very good and wholesome for the curing of any pain or grief in the winde-pipe or throat; *Bonatus Baro* doth affirm that the nails of Linxes which are in their Countrey, are had in great estimation and price amongst their Peers and Noble men: for there is a very certain opinion amongst them, that those nails being put upon the yard of either Horse or Beast whose urine is kept back or restrained, will in very short space cause them to void it without any grief at all. He reporteth also that their nails do there wax white, and that they include them all in silver, and do commend them for an excellent remedy against the Cramp, if they be worn (peradventure because they are bending and crooked) by which perswasion there are some superstitious men which hang certain roots which are crooked and knotty about them against the Cramp. There are some which do ascertain that these nails are good and ready helps for the soreness of the Uvula which is in the Horses mouthes: and for that cause there are many Horsemen which carry them continually about them.

Pliny.

The Linx or Wolf, which is begotten of a Wolf and a Hinde, the Musk-cat, the Weasill and all such other like Beasts, do more hurt men by their biting teeth-wounds then by poison. There was a certain Hunter, as *Collinus* reporteth, which told him that the flesh of a Linx being sod in some hot pottage or broth, and afterwards eaten, would be a very good and wholesome medicine for the expelling of the Ague, or Quartan Fever; and that the bones of the same Beast being burnt and pounded into powder, would be a very excellent remedy for the curing of wounds which are old and stale, and full of putrifaction, as also the Fistulaes which grow in the thighs or hips of men.

Arnoldus.

Of the Marder, Martel, or Marten.

The several
names.

Two kinds of
Martins.

Places of their
abode.

The use of
their skins, and
how to chuse
the best.

Difference be-
twixt Foins
and Martins.

This beast is called in the Hebrew, *Oach*, or as some say *Ziim*; amongst the *Arabs*, *Easfoz*, or rather *Kachebeon*, or *Kachineon*; in *Latine*, *Martes*; the *Germans*, *Marder*, or *Marter*, like the *English*; the *Italians*, *Marta*, *Martore*, or *Martorello*; the *French*, *Mardre*, or *Foyne*; the *Spaniards*, *Marta*; the *Illyrians* and *Polonians*, *Kuna*; and some latter *Latines* use the words *Marta*, *Martarus*, *Marturus*, and *Marturellus*; and the reason, or etymology of this *Latine* word is taken from *Martia*, which signifieth *Martial*, because this beast in warlike and hostile manner, destroyeth her adversaries, and liveth upon the prey of Hens, Birds, and Mice. The *Germans* divide these into two kinds, which they call by the names of *Tachmarder*, *Huffmarder*, *Steinmarder*, *Buechmarder*, *Feldmarder*, *Wildmarder*, *Thamarder*, *Fiechmarder*, that is to say, the *Fir-martin*, the *Rock-martin*, the *Tame-martin*, the *Beech-martin*, the *Field-martin*, the *Wilde-martin*, and the *Wall-martin*. For they live either in houses, wals, and Temples, or else in rocks, fields, and woods: And yet is not their distinction taken only from the places of their abode, but also from the goodness of their skins.

And therefore the *French* call the word *Martin* by the name of *Foines*: And the skins of the *Fir-martin*, or *Houfe-martin*, are far more beautiful to look upon, then those that live wilde in the trees or Woods. *Agricola* calleth the *Wood-martin* *Baummarder*, because it liveth for the most part in trees, and saith that it never forsaketh the Woods, or very seldom, and therefore in that thing differeth from the *Fir-martin*. But herein he seemeth to be deceived, that he ascribeth to the *Beech-martin*, a loamy or red throat, and also a continual abode among the Woods. For they come sometimes to houses, and to Rocks, for which, as we have said already, it is called a *House-marder*, and *Rock-marder*. And all these multitude of names, do but expresse the two kinds afore-named, whereof the *Fir-Martin* is most excellent; for Princes and great Nobles are clothed therewith, every skin being worth a *French crown*, or four shillings at the least. And they are so much the better, when there are more white hairs aspersed among the yellow.

For their ordinary colour is a deep brown yellow, and these that are clean white, are four times worse then the former; and therefore are not sold for above three or four groats a piece, howsoever the saying of *Martial*, *Venator capta Marte superbus adest*. Here cometh the proud Hunter that hath killed a *Martin*, may very well be applied unto them which take any of these beasts, for they cannot chuse but be very joyful, which get a good sum of money for a little labour, as they have for a *Martins* skin. By inspection of the *Foins*, that is, the *Martins* of the beech; for the *French* men called a *Beech*, *Fau*, from whence cometh the word *Foines*, you may see, that their skins are more dusky, having a tail both greater and blacker then the *Martins* of the *Firs*. And therefore you must understand, that they of the *Firs* are by way of excellency called *Martins*,



and the other of the woods called *Foines*. There is no great difference betwixt their bigness: and if by their skins at any time there seem any inequality, in breadth, or length, it must be attributed to their age and difference of years, and not to any proportion in nature or distinction of kinde. And as we have said that the Fir-Martins are absolutely the best, yet that is not to be understood generally. For the Martins of *Polonia* are so brown, that they are altogether disliked, and are accounted no better then the common Beech-Martins. Wherefore the bright-brown asperfed with white hairs, is ever accounted more pretious without all exception, and by that colour upon the back of the skin, the skinner judgeth of the worth, and not by the yellowness of the throat.

Of these Beech-Martins there are great plenty in the *Alpes*, especially on the South-side, Regions breed-
ing Martins, which look towards *Italy*, but very few of the Wal-Martins. But on those parts of the *Alpes* which look towards *Germany* and the *North*, there are abundance of Fir-Martins with yellow throats, for you must remember that the wilde Martin hath a white throat, and the Fir-Martin a yellow throat.

There are also of both kinds in *Helvetia*, and the most excellent are in the vales towards *Eras Stella*. the *Alpes*. In *France* there are no Martins of the wall, but the Beech-Martins live in hollow beeches. There are also woods full of the Beasts in *Brussia*, which the people there call *Gayni*. *Lanzarucca* a wood of *Scandnavia* fourscore miles long, is full of Martins. Also *Muscovy*, and *Lituania* have store of these Beasts, and *Sabels*. But they of *Lituania*, are the whitest in *Olaus Mag*. the world.

The people of *Sarmatia* in *Europe*, wear garments of these in *Sables*; and the inhabitants of *Jo Bohemus*. *Scythia*, *Hungaria*, neer *Tanais*, do pay yearly unto the Emperor of *Russia*, once called the Duke of *Muscovia*, a certain number of *Sabels* and Martins skins. There are also store of Martins neer *Bragansa*, and generally in all parts of *Europe* except in *England*.

They are in quantity about the bigness of a Cat, having longer bodies, but shorter legs, Their quanti-
ty and several
parts. with heads and tails like a Fox, their skins ordinarily brown, white on the throat, and more yellow on the back.

Their teeth are exceeding white, and unequal, one longer then another, being above measure sharp, and the canine teeth both above and beneath hang out very long. Amongst which on the neather chap, stand six small cutting teeth in a right line over against one another, which I think happeneth not in any other Beast of the world. The grinding teeth are like a saw, being triangular in fashion, eight above and eight beneath. Whereof the furthestmost upon the uppermost side of the mouth, are more deep and inward in the palat, then all the residue, the whole number is thirty two. The long hairs upon their upward lip doe bend clean backwards.

Notwithstanding that there be two kindes of this Beast, as already we have said, yet do the Their copula-
tion. Wood-Martins, or Beech-Martins, greatly desire copulation with the other, wherefore *Albertus* saith, *Miscetur inter se hec genera, & Martes phagi, fere sequitur, Martem abietum, tanquam nobiliorem, ut satum ex ea nobiliorem acquirat.* The Beech-Martin followeth the Fir-Martin, and desireth her copulation as the nobler kind, that he may thereby dignifie his own issue. It should seem that they breed in *March*, and make their nests like the draies of Squirrels, and bring forth many at a time; For it was constantly affirmed by a Countrey-man of *Germany*, that he found a nest of these Martins builded like a Squirrels, having four young ones in it, in the beginning of *April*.

If they be taken when they are young, both one and other kind grow wonderful tame and familiar with Men and Dogs. And *Gejner* had one of these, which loved a little Dog wonderfully, and would follow him abroad whithersoever he went, far or neer. It would also play with Dogs and Men, with teeth and nails, lying flat upon the back like a Cat, and never give any little hurt. But loosened from his chain it would wander abroad into the neighbours houses, and many times far off, but alwayes returne home again. They which tame them, because that they are easily exasperated, and bite deeply when they are angry, do break off the tops of their canine teeth, with a pair of pinsons for the preventing of that mischief. *Ruellius* affirmeth, that the excrement of this Beast smelleth like a Musk-cat, and saith the reason of it is, because they feed upon sweet fruits; but we have heard that they eat Pullen-birds, Eggs, and Mice, but that they eat of fruits it cannot be proved. I rather attribute it unto their own nature. For as the Martin-ape smelleth sweetly after her meat, so may this Martin-weasel render a sweet excrement. To conclude, the skins of these beasts is applyed to gowty legs, and the white hairs of the throat made into a cap, is very soverain for the head-ach. They may be taken with Dogs, or in traps, but commonly they are taken in ditches or pitfalls, according to this Verse of *Calentius*, wherewithal I will conclude;

Et laqueo vulpes, & decipe casse foinas.

Of the MOLE or WANT.



The several
names.

I Do utterly dissent from all them that hold opinion that the Mole or Want is of the kind of Mice, for that all of them in general, both one and other, have two long crooked foreteeth which is not in Moles, and therefore wanting those as the inseparable propriety of kinde, we will take it for granted that it pertaineth not to that rank or order of four-footed Beasts. But concerning the Hebrew name thereof, there is much variance, and little certainty amongst writers. Some of them calling it *Tinschemet*, which word is found Deut. 14. which is also translated by the Chaldees, *Bota* or *Baveta*, a Swan, and the Septuagints and Jerom, *Ibis*, and Rabbi Solomon in another place of the same Chapter translateth it a Bat, which the French call *Chaulve-souris*. But in that place of Levit. 11. where the *Stellio*, the *Lizard*, and *Tinschemet*, are reckoned unclean Beasts; Rabbi Solomon interprets it *Talpom*, the Mole. The Septuagints, *Aspalax*; the Caldee, *Aschuta*; the Arabian, *Lambaraz*; the Persian, *Angurbah-dedach*. There is a sentence, Isa. 2. in Hebrew thus, *Lachepur perot velatalephim*: which by Munster is thus translated, *In die projiciet homo aureos & argenteos deos, in fossuras talpae & vespertilionum*. In that day shall a man cast away his goods of silver and gold into the holes of Moles and Bats. By S. Jerom it is translated thus, *Projiciet homo Idola, usque ut adoraret talpas & vespertiliones*. A man shall cast away his Idols to worship Moles and Bats. Some again make but one word of *Lacheporperot*, and translate it a Beast digging ditches; and the Septuagints, Idols or abominations, and think that they were so called, because their outward forme representeth some such reptile creature, and *Symmachus*, unprofitable things; but *Aquila*, *Orugas*, digging Beasts: and therefore at this day all the learned take *Perot* for Moles, so called by reason of their digging. *Avicen* calleth it *Pelagoz*, a blinde Mouse. In Greek it is called sometimes *Spalax*, but more often *Aspalax*: yet *Albertus* calleth it by a strange Grecian name *Colti* and *Koky*, which he took from *Avicen*. The Italians retain the Latin word *Talpa*; the Spaniards, *Topo*, by which word the Italians at this day call a Mouse. The French call it *Taulpe*; the Germans, *Mulwurf*, and in Saxon, *Molwurffe*, from whence is derived the English Mole, and Molewarp. The Helvetians, *Scher* and *Schermouse*, and the Molehil they call *Scherusen* of digging. The Hollanders and the Flemmings call it *Mol* and *Molmuss*, in imitation of the German word: the Illyrians, *Krtize*. And generally the name is taken from digging and turning up the earth with her nose and back, according to the saying of Virgil;

Aut oculis capti fodere cubilia Talpae.

Some are of opinion, that it is called *Talpa*, because it is appointed to an everlasting darkness in the earth; of which sort *Isidorus* writeth thus, *Talpa dicta est eo quod perpetua caecitate tenebris damnata, est enim absque oculis*.

It is called also in Greek, *Indouros*, and *Siphneus*, of *Siphnon* the earth, because it liveth in the earth, and turneth it upward to make it hollow for passage. The like I might say of his other names, *Ixliocho*, and *Orthoponticos*; But this shall suffice for his name.

Countries of
Moles.

Aristotle.

Ælianus.

Pliny.

Generation of

Moles.

In *Bæotia* about the *Champaignes* called *Orchomenius ager*, there are the greatest store of Moles in the world: for by digging they undermine all the fields, and yet in *Lebadia* another Country of *Bæotia*, there are none at all, and if they be brought thither from any other place they will never dig but die. *Rodolphus*, *Oppianus*, and *Albertus* affirm, that they are created of themselves of wet earth and rain water, for when the earth beginneth to putrifie, the Mole beginneth to take life.

They are all for the most part of a black duskie colour, with rough, short and smooth soft hair as wooll, and those hairs which were whitest when they are yong, are most glistering and perfect black when they are old: and *Gesner* affirmeth that he saw in the end of *October*, a Mole taken which was very white, mixed with a little red, and the red was most of all upon her belly, betwixt her forelegs and

and the neck, and that it could not be a young one, because it was two palms in length betwixt his head and tail.

These Beasts are all blinde and want eyes, and therefore came the proverb *Talpa cecior, Taphlote-* Blindness of
ros a spalacos, blinder then a Mole; to signifie a man without all judgement, wit or foresight; for Moles:
it is most elegantly applyed to the minde. Yet if any man look earnestly upon the places where they should grow, he shall perceive a little passage, by drawing up the membrane or little skin which is black, and therefore *Aristotle* saith of them in this manner probably;

All kindes of Moles want their sight, because they have not their eyes open and naked as other Beasts, but if a man pull up the skin of their browes about the place of their eyes, which is thick and shadoweth their sight, he shall perceive in them inward covered eyes, for they have the black circle, and the apple which is contained therein, and another part of the white circle or skin, but not apparently eminent; neither indeed can they, because nature at the time of generation is hindered, for from the brains there belong to the eyes two strong nervie passages, which are ended at the upper teeth, and therefore their nature being hindered, it leaveth an imperfect work of sight behinde her.

Yet there is in this Beast a plain and bald place of the skin where the eyes should stand, having outwardly a little black spot like a Millet or Poppey-feed, fastened to a nerve inwardly, by pressing it, there followeth a black humor or moistness, and by dissection of a Mole great with young, it is apparent (as hath been proved) that the young ones before birth have eyes, but after birth, living continually in the dark earth without light, they cease to grow to any perfection; for indeed they need them not, because being out of the earth they cannot live above an hour or two. *Albertus*

Esop hath a pretty fable of the Asse, Ape, and Mole, each once complaining of others natural wants; the Asse, that he had no horns, and was therefore unarmed; the Ape, that he had no tail like other Beasts of his stature and quantity, and therefore was unhandsome; to both which the Mole maketh answer, that they may well be silent, for that she wanteth eyes, and so insinuateth, that they which complain shall finde by consideration and comparison of their own wants to others, that they are happy and want nothing that were profitable for them.

Oppianus saith, that there was one *Phineus* which was first deprived of his eye-sight, and afterward turned into a Mole: It should seem he was condemned first to loose his eyes, and afterward his life.

These Moles have no ears, and yet they hear in the earth more nimbly and perfectly then men can above the same, for at every step or small noise and almost breathing, they are terrified and run away, and therefore (*Pliny* saith) that they understand all speeches spoken of themselves, and they hear much better under the earth then being above and out of the earth. And for this cause they dig about their lodging long passages, which bringeth noises and voices to them, being spoken never so low and softly, like as the voice of a man carryed in a trunk, reed or hollow thing. Their several parts and members.

Their snout is not like a Weasils, as *Suidas* saith, but rather like a Shrew-mouses, or (if it be lawful to compare small with great) like to a Hogs. Their teeth are like a Shrews and a Dogs; like a Shrews in the neather teeth and furthestmost inner teeth, which are sharp pointed and low inwardly; and like a Dogs, because they are longer at the sides, although only upon the upper jaw, and therefore they are worthily called by the *Grecians*, *Marootatous*; that is dangerous biting teeth, for as in Swine the under teeth stand out above the upper, and in Elephants and Moles, the upper hang over the neather, for which cause they are called *Hyperphereis*.

The tongue is no greater then the space or hollow in the neather chap, and they have in a manner as little voice as sight, and yet I marvel how the proverb came of *Loquax Talpa*, a prating Mole, in a popular reproach against wordy and talkative persons, which *Ammianus* saith, was first of all applyed to one *Julianus Capella*, after he had so behaved himself, that he had lost the good opinion of all men.

The neck seemeth to be nothing, it is so short, standing equall with the forelegs. The lights are nothing else but distinguished and separated *Fibres*, and hang not together upon any common root or beginning, and they are placed or seated with the heart, which they enclose, much lower toward the belly then in any other Beast. Their gall is yellowish, their feet like a Bears, and short legs, wherefore they move and run but slowly; their fingers or toes wherewithal they dig the earth, are armed with sharp nails, and when she feeleth any harm upon her back, presently she turneth upward and defendeth her self with her snout and feet: with her feet she diggeth, and with her nose casteth away the earth, and therefore such earth is called in *Germany*, *Mal werff*, and in *England*, *Mole-bill*: and she loveth the fields, especially meddowes and Gardens, where the ground is soft, for it is admirable with what celerity she casteth up the earth. *Cardanus*

They have five toes with claws upon each forefoot, and four upon each foot behind, according to *Albertus*, but by diligent inspection you shall finde five behind also, for there is one very little and recurved backward, which a man slightly and negligently looking upon, would take to be nothing. The palm of the fore-feet is broad like a mans hand, and hath a hollow in it if it be put together like a fist, and the toes or fingers with the nails are greater then any other beasts of that quantity. And to the end that he might be well armed to dig, the forepart of her fore-legs consist of two solid and sound bones which are fastened to her shoulders, and her claws spread abroad, not bending downward, and this is peculiar to this Beast not competent to any other, but in her hinder legs both before and behind they are like a Mouses, except in the part beneath the knee, which consisteth

but of one bone which is also forked and twisted. The tail is short and hairy. And thus much for the Anatomy and several parts.

The places of
their abode.

They live as we have said in the earth, and therefore *Cardan* saith, that there is no creature which hath blood and breath that liveth so long together under the earth, and that the earth doth not hinder their expiration and inspiration; for which cause they keep it hollow above them, that at no time they may want breath, although they do not heave in two or three dayes; but I rather believe when they heave, they do it more for meat then for breath, for by digging and removing the earth they take Wormes, and hunt after victuals.

When the Wormes are followed by Moles, (for by digging and heaving, they foreknow their own perdition) they flie to the superficies and very top of the earth, the silly beast knowing that the Mole their adversary, dare not follow them into the light, so that their wit in flying their enemy is greater, then in turning again when they are trod upon. They love also to eat Toads and Frogs, for *Albertus* saith, he saw a great Toad whose leg a Mole held fast in the earth, and that the Toad made an exceeding great noise, crying out for her life, during the time that the Mole did bite her. And therefore Toads and Frogs do eat dead Moles. They eat also the root of Herbs and Plants, for which cause they are called by *Oppianus*, *Poiophagi Herbivora*, herb-eaters.

Enemies to
Moles.

In the month of *July* they come abroad out of the earth, I think to seek meat at that time when wormes be scanty. They are hunted by Weasils, and wilde Cats, for they will follow them into their holes and take them, but the Cats do not eat them: whereas we have said already, that they have an understanding of mens speech when they hear them talk of them;

Understand-
ing of Moles.

I may add thereunto a story of their understanding, thus related by *Gillius* in his own experience and knowledge. When I had (saith he) put down into the earth an earthen pot made of purpose with a narrow mouth to take Moles, it fortuned that within short space as a blind Mole came along she fell into it and could not get forth again, but lay therein whining; one of her fellowes which followed her seeing his mate taken, heaved up the earth above the pot, and with her nose cast in so much, till she had raised up her companion to the brim and was ready to come forth: by which in that blind creature confined to darkness, doth not only appear a wonderful work of Almighty God, that endoweth them with skill to defend, and wisely to provide for their own safety, but also planted in them such a natural and mutual love one to another, which is so much the more admirable, considering their beginning or creation as we have shewed already. Because by their continual hearing and laboring for meat, they do much harm to Gardens and other places of their abode, and therefore in the husband-mans and house-wifes common-wealth, it is an acceptable labor to take and destroy them. For which cause it is good to observe their passages, and mark the times of their coming to labor, which being perceived, they are easily turned out of the earth with a spade, and this was the first and most common way.

Taking of
Moles.

Some have placed a board full of pikes which they fasten upon a small stick in the mole hil or passage, and when the mole cometh to heave up the earth, by touching the stick she bringeth down the pikes and sharp nailed boards upon her own body and back. Other take a Wyar of Iron, and make it to have a very sharp point, which being fastened to a staffe and put into the earth where the Moles passage is, they bend and so set up, that when the Mole cometh along, the pike runneth into her and killeth her.

The *Grecians* (saith *Palladius*) did destroy and drive away their Moles by this invention, they took a great Nut, or any other kind of fruit of that quantity, receipt and solidity, wherein they included Chaffe, Brimstone and Wax, then did they stop all the breathing places of the Moles, except one at the mouth, wherein they set this devise on fire, so as the smoak was driven inward, wherewithal they filled the hole and the place of their walks, and so stopping it, the moles were either killed or driven away.

Paramus.

Also *Paramus* sheweth another means to drive away and take Moles: If you take white Hellebor, and the rindes of wilde Mercury in stead of Hemlock, and dry them and beat them to powder, afterward sift them and mix them with meal and with milk beaten with the white of an Egge, and so make it into little morsels or bals, and lay them in the Mole-hole and passages, it will kill them if they eat thereof, as they will certainly do.

Use of their
several parts.

Many use to kill both Moles and Emmets with the froath of new Oyl. And to conclude, by setting an earthen pot in the earth and Brimstone burning therein, it will certainly drive them forever from that place. Unto which I may add a superstitious conceit of an obscure Author, who writeth, that if you whet a mowing sythe in a field or meddow upon the feast day of Christs Nativity (commonly called Christmas day) all the Moles that are within the hearing thereof, will certainly for ever forsake that field, meddow or Garden.

With the skins of Moles are purses made, for the rough and soft hair, and also black russet colour is very delectable. *Pliny* hath a strange saying, which is this; *Ex pellibus talparum cubicularia vidimus stragula; adeo ne religio quidem a portentis summovet delicias*; that is, We have seen the hangings of Chambers made of mole skins, so that no conscience of religion cannot avert the monstrous love of delights from the affectation of men.

For all the ancient Wise men and Magicians did hold, that this beast was capeable of Religion, *Nullis eque credunt extis, nullum Religionis capax animal, ut si quis cor ejus recens palpantq; devorant, divinationis. & rerum efficiendarum eventus promittat*; they give not so much credit to any intrails

intrails as to theirs; for they judge that no beast is so capable of Religion, because if a man eat the heart of a Mole newly taken out of her belly and panting, he shall be able to divine and foretel infallible events. Another saith, *Veteribus monumentis traditur Gallinaceorum fibras maxime diis gratas videri: sicut Talparum viscera Magi verissima dicunt, illisq; haud secus quam solenni victimam litari, haec enim sunt exta argutissima, in quibus divina mens inesse creditur*: that is, the fibres of Cocks were wont among ancient Monuments to be accounted most acceptable to the Gods, even as the bowels of Moles (as the wise men say) and to offer these as a most solemn sacrifice grateful to the Gods, and that in those intrails it was believed that the minde and pleasure of God was sealed and engraven; and a little after he saith, that the bowels of Moles and frogs do foretel many great and fortunate events.

Alex. ab Al.

But I will leave this paganism, and let it never enter into the heart of a reasonable man, that such beasts can love Religion, or that God hath planted in their bowels and corrupt parts, such letters of his wisdom and fore-knowledge, which he hath not granted to the immortal and incorruptible soul of man. Only this I finde by experience, that before any rain and change of weather, these silly beasts heave up the earth more abundantly then at other times; and that in *Thessaly* (as *Varro* saith) a whole Town was once undermined by Moles. They were wont to sacrifice this beast to *Neptune*, because of the affinity betwixt their names, for in *Greek* *Alphalos*, signifieth *Neptune*, and *Asphalax*, a Mole. *Alunus* also writeth, that they were sacred and dedicated to Hell, because they kept continually within the bosom and bowels of the earth; and to conclude, because that Moles would not live in *Coronea* a part of *Boetia*, before spoken of, and thereof came the common proverb, *Asphalacaeis Coronean*, a Mole is brought to *Coronea*, to signifie the hatred of a gift or ghelt to him that is forced to receive him. Thus much for his natural and moral story; now followeth his medicinal.

The Medicines of the Mole.

There is nothing which is more profitable or medicinable for the curing of the bites of a Shrew, then a Mole being head and clapped thereunto. The same doth also very effectually cure and heal the blows or bitings of a Scorpion. Pills being made with that which proceedeth from Moles with *Pliny*. Hony, eaten nine days together, doth preserve the body of any one from swellings or bunches in the flesh, who shall so eat them. For the avoiding or driving away the hairs which grow in any part of mans body, that they may never return or be renewed again: Take a Mole and lay her in water to be steeped or soaked, so long as she shall not have any hairs left upon her, with this water anoint the place which is full of hairs, and afterwards wash it with lie made of ashes, and then rub it with a linnen cloth; then if you shall see the hairs to return again, wash it twice or thrice in the aforesaid manner, and they will be quite expelled away, and by no means can be made either to renew or come again. For the renewing, and bringing again of those hairs which are fallen or decayed, take a Mole, and burn her whole in the skin, and mingle the dust or powder which cometh from the same with Hony unto the thickness or fashion of an Ointment, and this being rubbed or anointed upon the bare or bald place will without doubt in some short time or space procure the hair to grow thick. For the renewing of hairs which fall from Horses; Take a Mole and boil her in Oyl, until all the flesh be consumed and quite dissolved into a liquid juyce, with this Oyl anoint the place which is bare or destitute of hairs twice every day for some short space, and it will make the hairs to grow in great abundance.

Pliny.

Arnoldus.

Furnerius.

Ruffus.

For the changing of the hairs of Horses from black to white, take a Mole and boil her in Salt water, or lye made of ashes three days together, and when the water or lie shall be quite consumed, put new water or lie thereunto: this being done, wash or bathe the place with the water or lie somewhat hot; presently the black hairs will fall and slide away, and in some short time there will come white. Whosoever shall take a Mole and hold her in his right hand until she die, shall have such an excellent vertue therein, that she shall ease the pain of a womans breasts only by touching them.

The dust of a Mole being burnt, mingled with the white of an Egge, and anointed upon a Sheep, is an excellent and medicinable remedy against the Leprie, which cometh oftentimes upon them. The dust of a Mole mixed with Oyl or Hony, and anointed upon the skin of either man or woman which is full of Leprie, will very speedily and effectually cure and heal the same. The same being used in the aforesaid manner, is very good for the curing of those which are troubled with the disease called the Kings Evil; as also for those which have hard bunches or kernels arising in their arm-holes, and in other parts of their body.

Pliny.

Marcellus.

The whole body of a mole being taken and burned in the skin into dry dust, or powder, is an excellent remedy against the disease called the Fistula, as also for the purging of the corruption in them and healing of them, being once taken by any man. The same being also mixed with Hony, and rub'd upon the teeth of any one who hath pain in them, doth not only ease the pain and grief thereof, but also doth strengthen and make them fast. The blood of a Mole being killed, spread or anointed upon the head of any one which is bald, will very speedily renew and bring the hairs again. The head of a mole being cut off and beaten together with the earth which is stirred up by Moles, and wrought into a paste, and rowled together like a little loaf, is very much used for the healing of all swellings, and for those things which they call Impostumes; as also for all swellings or kernels

Vincenius.

Sextus.

which

which arise in the neck; so that in the time of the curing of these things, the party which is pained and grieved, be not suffered to eat any Swines flesh.

Obscurvi.

The tooth of a living Mole taken out and tyed or bound to the teeth of any who is grieved therein, is commended by the *Magi*, or Wise-men to be an excellent remedy and cure for the same. The heart of a Mole being eaten nine days together, doth very speedily and effectually cure either him or her which shall so eat it, of that pestiferous disease call'd the Kings Evil, if it be so that it hath not been of too long continuance with them. The same is also very good and profitable for the asswaging of Wens, being used in the aforesaid manner. The liver of a Mole being beaten between the hands of him that is troubled with bunches or swellings in his back, and afterwards put upon the same, is a present help and cure. The same effect hath the right foot of a Mole for the asswaging of bunches and swellings arising in the flesh.

Pliny.
Arnoldus.

Of the vulgar little M O U S E.



Definition of a
Moufe.

The several
names.

Denomination
of sundry crea-
tures from the
Moufe.

Pausanias.

As we have handled the natures, and delivered the figures of the great beasts, so also must we not disdain in a perfect History to touch the smallest: For Almighty God which hath made them all, hath disseminated in every kinde both of great and small beasts, seeds of his Wisdom, Majesty, and glory. The little Mouse therefore is justly tearmed, *Incola domus nostrae*, an inhabitant in our own houses, *Et rofor omnium rerum*, and a gnawer of all things. And therefore from the sound of her teeth which she maketh in gnawing, she is called *Sorex*. Although we shall shew you afterwards, that *Sorex* is a special kinde, and not the name of the general. Wherefore seeing there be many kindes of Mice, and every one of them desireth a particular tractate, I thought good to begin with the Vulgar little Mouse, and so to descend to the several species and kindes of all, according to the method of the Philosopher, *A notioribus ad minus nota*, from things that are most known to them that are less known. In Hebrew it is called *Achar*, Levit. 11. where the *Septuaginta* translate it *Mys*; the *Chaldee*, *Acbera*; the *Arabians*, *Fer*, or *Phar*; from whence cometh the *Saracen* word *Fara*. The *Persians*, *An Mus*; the *Latines*, *Mus*; the *Italians*, *Topo*, or *Sorice*, *Alforgio*, *O Rato*, *Di casa*, although *Rato* signifieth a Rat, both among the *Germans*, *French*, and *English*. The *Spaniards* call the little Mouse, *Rat*; and the great Rat, *Ratz*; the *French* the little Mouse, *Souris*; which word seems to be derived from the *Latine*, *Sorex*, and the great Mouse they call *Ratt*. The *Germans* the great ones *Ratz*, and the little one *Mys*; the *Illyrians* and *Polonians*, *Myss*, which is the *Greek* word; and the great one they call *Sczurcz*; the *Venetians* call the Rat *Pantegana*, of *Pontis* the vulgar *Greek* name, and the *Romans*, *Sourco*.

Now the dignity of this little beast, may appear by the name, which hath spread it self both to beasts, fishes, men, herbs, and Cities. To beasts as we have shewed before in the *Ichneumon*, which is vulgarly called the *Indian* Mouse, or *Pharaohs* Mouse. And to fishes, for there is a little fish called *Musculus*, and in *Greek*, *Mystocetus*, the Whale-mouse, because it leadeth the way, and sheweth the Whale whither soever she swimmeth, for the avoiding of Rocks, (according to *Pliny*) although *Rondelietus* affirmeth otherwise, namely, that that guide of the Whale is called *Egemon*, and *Egetur*, and *Mystocetus* (he saith) is a shell-fish. Generally most kinde of Oysters are also called *Myss*, because sometimes they gape and make a noise like a Mouse, and close their shells again. The purple fishes be also called *Myss*; there is likewise a kinde of pretious stone called *Mya*, about *Bosphorus Thracius*, and many other such dignities, hath the the name of this beast attained.

There was one *Mys*, the servant of that famous Philosopher *Epicurus*; likewise the name of a Champion or Challenger, in *Suidas* and *Varinus*, and there was another called *Mus*, of excellent skill for engraving in Silver; and therefore did draw upon the shield of *Minerva*, the fight betwixt the *Lapithae*, and the *Centaurs*, and many other things. Whereupon *Martial* made this verse;

Quis labor in Ibiola? docti Myos? anne Myronis?

There

There was a Consul of Rome, whose name was *Mus*, and therefore *Camerarius* made this Riddle of the Mouse; *Parva mihi domus est, sed janua semper aperta, Acciduo sumptu, furtiva vivo sagina, Quod mihi nomen inest, Rome quoque Consul habebat.* The Thracians call'd *Argilus* a Mouse, and the City which he builded *Argelus*. *Myes* was a City of *Ionia*, and a Citizen of that City was called *Myetius*. *Myon* a City of *Locri* in *Epirus*, and the people thereof are called *Myones*. *Myonesus*, a little Region betwixt *Teon* and *Lebedon*, and according to *Stephanus*, an Island near *Ephesus*; the first Port or Haven of *Egypt*, opening to the Red Sea, is called *Muos arnos*, the Mouses haven; and *Mysia* also seemeth to be derived from their stem. There is an Island under the Equinoctial line, called *Insula Murium*, the Mouse Island, because of the abundance of Mice therein: and to conclude, even the herbs and plants of the earth, have received names from this little beast, as *Hordeum*, *Murinum*, *Myacantha*, *Sperage*, *Myopteron*, *Myuon*, *Myartocon*, Mouse-ear, Mouse-foot, and such like. There have been also Comedies made of *Mys*, as that of *Carfinus*, called *Myes*, wherein the Weasel strangleth the night-wandering *Mys*. And another Greek, called *Galeomyomachia*, that is a fight betwixt Cats and Mice, wherein the Poet doth most pleasantly feign names of Mice, as their King he calleth *Creillus*, that is, a flesh-eater, and his eldest son *Pficarpax*, a corn-eater; and his second son *Pfitodarpes*, bread-eater, and his eldest daughter, *Lychopluphe*, candle-eater; and all his Ancestors *Carpodaptai*, that is, fruit-eaters. And then he bringeth other Mice in, as *Turolicos*, *Pficolices*, *Choleoclophos* *Homer* in his *Batrachomyomachia*, that is, a fight betwixt Frogs and Mice, doth very elegantly describe divers proper names of Mice. As *Pficarpax*, whose father was *Tuoxartes*, and his mother *Lychomile*, daughter of *Pternotrocha* the King, and then other Mice, as *Lychopinax*, *Teroglyphus*, *Embaschitrus*, *Lychenor*, *Trogodites*, *Actophagus*, *Pternogli-phus*, *Pternopagus*, *Cnissodictes*, *Sitophagus*, *Artophilus*, *Meridarpax*, and *Thulacotrox*, all which are not only out of the abundance of the Authors wit, but invented for the expressing of the Mouses nature.

Thehetus.

Fictions learned and witty of the proper names of Mice.

The Epithets of Mice are these; short, small, fearful, peaceable, ridiculous, rustick, or Country Mouse, urbane, or City Mouse, greedy, wary, unhappy, harmful, black, obscene, little, whiner, biter, and earthly. And the Greek ones are expressed before in the proper names, and thus much may suffice for the names of Mice. Now to come to their several nature and significations. First of all concerning their colour. It is divers, for although *Color murinus* be a common term for a Mouse colour of Asses, yet notwithstanding Mice are sometimes blackish, sometimes white, sometimes yellow, sometimes brown, and sometime ash colour. There are white Mice among the people of *Savoy*, and *Dauphin* in *France* called *Allobroges*, which the Inhabitants of the Countrey do believe that they feed upon snow. But the white Mouse is above all other most lascivious and lecherous; and therefore it came into a proverb, *Mys Leucos*, *Mys Cacos*, the white Mouse is an ill Mouse, of whose lust *Alciaus* made this Emblem;

The colour of Mice.

Scaliger. Albertus.

The quantity and several parts of Mice, Mathaeolus.

*Delitias & molliem, Mus creditur albus,
Arguere; at ratio non sat aperta mihi est.
An quod ei natura salax, & multa libido est?*

*Ornat Romanus an quia pelle nurus?
Sarmaticum Murem vocitant plerique bellum,
Et celebris suavi est unguine Muscus Arabs.*

Aristotle. Cicero.

Of all which conjectures of the Poets, the first is most probable; for the Ancients were wont to call wanton and effeminate men *Pyrgoi*, and *Leucopygoi*, from their beauty and whiteness. And as there is a difference in their colours, so also there is in their quantity: For some are very great, some meanly great, and some very small. Their heart is very great, and their liver and lights increase in the Winter time. Also the fibres that are in them, do increase and decrease with the waxing and waning of the Moon. For every day of the Moons age, there is a fibre increased in their liver. And therefore *Lucilius* said well, *Luna alit ostrea, & implet echinos, & Muribus fibras auget*: that is to say, The Moon feedeth Oysters, filleth Hedgehogs, and encreaseth fibres in Mice. Some of these Mice have a gall, and some have none, as *Aristotle* and *Pliny* shew in many places.

The Mouses place of conception have many holes in it, during the time she beareth her young ones. There is no creature that heareth more perfectly than a Mouse, they dwell in houses of men, especially near supping and dining rooms, kitchens, or larders, where any meat is stirring. And they make themselves places of abode by gnawing with their teeth, if they finde not convenient lodgings prepared to their hand, and they love the hollow places of wals, or the roofs of houses; and therefore the Wasps which in *Aristophanes* are called *Drophæ*, that is, gnawers of roofs, are to be understood to be Mice, because *Mys Drophia* is a Mouse in the house top. In the day time they lie still, so long as they either see or hear a man, or any other beast harmful unto them, for they discern their enemies; not fearing an Ox, though they run away from a Cat.

Albertus.

Orus.

Aelianus.

They are very desirous of bread, and delight in all those meats which are made of fruit, for the nourishment of men. It is a creature very diligent and exquisite, both to compass, seek out and chuse the same, so that therefore it doth often endanger and lose his own life: and finding any cubboards, wood, or such like hard matter, to withstand his purpose, and hinder his passage, it ceaseth not to weary it self with gnawing, until it obtain the purpose. All kindes of Mice love grain and corn, and prefer the hard before the soft; they love also Cheese, and if they come to many Cheeses together, they tast all, but they eat of the best. And therefore the Egyptians in their Hieroglyphicks do picture a Mouse, to signifie a sound judgement and good choice. Buckmast is very acceptable to Mice, and the Mice in the Isle *Parus*, in *Tenedos*, in the Island *Gyaros*, which is one of the Islands of the *Sporads* in *Cyprus*, and in *Chalcis*, they did eat Iron, as appeareth by *Aristotle*, *Aelianus*, and *Heraclides*. And

it

it was also found, that in a certain Island near *Chalybes*, Mice eat and devour gold, and therefore the Gold-smiths did cut them in pieces among their metals. *Plutarch*, in the life of *Marcellus* saith, that there were many prodigies and fearful signes that did precede the war of *Marius*, amongst other, he saith that Mice did eat the Gold hanging in the Temple, and that one of the Temple-keepers in a certain trap took a female Mouse alive, who littered five little Mice in that place, and devoured three of them. *Anthologius* rehearseth a witty Hexastichon of *Antiphilus*, upon a Mouse which was slit asunder alive, for certain Gold-dust, which she had devoured, whereby was signified how men procure unto themselves exquisite torments, and unavoidable mortal harms by stealing, and increasing of riches signified by Gold. Vulgar Mice do ruminare or chew the cud as well as the Pontick, and they drink by licking or lapping, although their teeth be not sawed. It is reported that the Mice of *Africk*, and especially of *Lybia*, die assoon as they drink. And the reason thereof we will shew afterwards in the taking of Mice, when we come to discourse of their poysons. And for the present it should seem their temperament, or constitution is so moist, that nature can endure no addition. Yet in the plains of *Arcadia*, there are Mice which drink of a certain Fountain without any harm.

Pliny.

Albertus.

Mice cannot drink without danger.

Theophrastus.

Generation of Mice, and their carnal copulation.

The generation and procreation of Mice, is not only by copulation, but also nature worketh wonderfully in ingendering them by earth and small showers, as we will shew in the discourse of wilde Mice.

But the house Mouse whereof we now intreat, is engendered by copulation betwixt male and female, and they are in general most libidinous, as may appear by that saying of *Cratinus* against *Xenophon*, *Phere nun ex aibrias Katapuposunen muos astrapso Xenophontos*, go to now, for from the skies I will strike by lightning the *Murina* wantonness of *Xenophon*: and the female is much more venereous then the male, as appeareth by that fable of *Ipicrates* describing the rage of a lustful woman. *Postremo subiit me detestabilis lena, dejerans per Dianam, per puellam, per Persephattam, se esse vitulam, esse virginem, esse pullam indomitam, at illa myonia erat.* Then followed me that detestable baud, swearing by *Diana*, and *Persephatta*, that she was a Heifer never touched, a Virgin never stained, and a Colt never covered, but the truth is, she was as good a Maid as a Mouse. *Politianus* in stead of *at illa myonia erat*, hath *at illa cavus erat Murinus*, that she was a Mouses hole, signifying that her virginity was lost, and that she suffered any lovers, as a Mouse-hole doth any Mice. And from hence came that verse of *Martial*, describing the speech of a lover to his love, calling him her Mouse and her Joy;

Nam cum me Muremtu, cum mea lumina dicis.

Albertus.

Copulation of Mice.

So that in general all Mice, and not only the white Mouse, are most desirous of copulation. And when they are in copulation, they embrace with their tails, filling one another without all delay. By tasting of Salt, they are made very fruitful, and therefore *Aristotle*, and the Souldiers of *Alexander* the Great, do report, that Mice by licking one another, and by the licking of Salt, do ingender & conceive with young without any other copulation. But what reasons they have to lead them to that opinion, I know not; beside that wonder reported by *Pliny* and *Aristotle*, that in a certain part of *Persia*, a female Mouse being slit asunder alive, all the young females within her belly are also found pregnant conceived with young.

Two miracles in their procreation and multiplication.

It is very certain, that for the time they go with young, and for the number they bring forth, they exceed all other beasts, conceiving every fourteen or sixteen days, so that it hath been found by good experience, that a female Mouse having free liberty to litter in a vessel of millet-seed, within less compass then half a year she hath brought forth one hundred and twenty young ones.

Volaterranus.

Gillius.

Whether Mice be docible.

They live very long, if they be not prevented of their natural course, and dying naturally, they perish not all at once, but by little, and little, first one member, and then another, (*Pliny* saith) *Evolucirbus hirundines sunt indociles, e terrestribus Mures*, among the Fowls of the air, the Swallows are undocible, and among the creatures of the earth, a Mouse; *Albertus* writeth, that he saw in upper *Germany*, a Mouse hold a burning Candle in her feet, at the commandment of her Master all the time his guests were at Supper.

Now the only cause why they grow not tame, is, their natural fear, such as is in Conies, Hares, and Deer. For how can any man or beast love or hearken unto him, who they are perswaded lyeth in wait for their life, and such is the perswasion of all them that fear; which perswasion being once removed by continual familiarity, there is no cause in nature, but that a Mouse may be docible as well as a Hare or Cony, which we have shewed heretofore in their stories.

Prefages and fore-knowledge of Mice.

It is also very certain that Mice which live in a House, if they perceive by the age of it, it be ready to fall down or subject to any other ruin, they foreknow it and depart out of it, as may appear by this notable story which happened in a Town called *Helice* in *Greece*, wherein the Inhabitants committed this abominable act against their neighbours the *Greeks*. For they slew them, and sacrificed them upon their Altars: Whereupon followed the ruine of the City, which was premonstrated by this prodigious event. For five days before the destruction thereof, all the Mice, Weefils, and Serpents, and other reptile creatures, went out of the same in the presence of the Inhabitants, every one assembling to his own rank and company, whereat the people wondered much, for they could not conceive any true cause of their departure; and no marvail. For God which had appointed to

take

to take vengeance on them for their wickedness, did not give them so much knowledge, nor make them so wise as the beasts to avoid his judgement, and their own destruction; and therefore mark what followed. For these beasts were no sooner out of the City, but suddenly in the night time, came such a lamentable Earth-quake and strong tempest, that all the houses did not only fall down, and not one of them stood upright, to the slaughter of men, women, and children, contained in them; but lest any of them should escape the strokes of the timber and house tops, God sent also such a great flood of waters, by reason of the tempestuous winde which drove the waters out of the Sea upon the Town, that swept them all away, leaving no more behinde then naked and bare significations of former buildings. And not only the City and Citizens perished, but also there was ren ships of the *Lacedemonians* in their port all drowned at that instant.

Ælianus.

The wisdom of the Mouse appeareth in the preparation of her house; for considering she hath many enemies, and therefore many means to be hunted from place to place, she committeth not her self to one lodging alone, but provideth many holes; so that when she is hunted in one place she may more safely repose her self in another. Which thing *Plautus* expresth in these words; *Seditamen cogitato, Mus pusillus, quam sapiens sit bestia, etatem qui uni cubili nunquam committit suam: cum unum obstruetur, aliunde perfugium querit*: that is to say, it is good to consider the little Mouse, how wise a beast she is, for she will not commit her life to one lodging, but provideth many harbors, that being molested in one place she may have another refuge to flee unto.

Their natural wisdom.

And as their wisdom is admirable in this provision, so also is their love to be commended one to another, for falling into a vessel of water or other deep thing, out of which they cannot ascend again of themselves, they help one another, by letting down their tails, and if their tails be too short, then they lengthen them by this means: they take one anothers tail in their mouth, and so hang two or three in length, until the Mouse which was fallen down take hold on the neathermost, which being performed, they all of them draw her out. Even so Wolves holding one another by their tails, do swim over great Rivers: and thus hath nature granted that to them which is denied to many men, namely, to love, and to be wise together. But concerning their manners, they are evil, apt to steal, insidious, and deceitful; and men also which are of the same disposition with these beasts, fearing to do any thing publickly, and yet privately enterprise many deceits, are justly reproved in imitation of such beasts. For this cause was it forbidden in Gods Law unto the *Jews*, not only to eat, but to touch Mice, and the Prophet *Esai* ch. 66. saith, *Comedentes carnem suillam, & abominationem, atq; murem, simul consumentur, inquit Dominus*, that is, they which eat Swines flesh, abomination, and the Mouse, shall be destroyed together, saith the Lord: wherein the Prophet threatneth a curse unto the people, that broke the first Law of God in eating flesh forbidden; and the Physicians also say, that the eating of the flesh of Mice engendereth forgetfulness, abomination, and corruption in the stomach.

Their natural love to one another.

Ælianus. Their disposition, and their flesh.

Procopius. Aristas.

Arnoldus.

The eating of bread or other meat which is bitten by Mice, doth encrease in men and children a certain disease in their face, and in the flesh, at the roots of the nails of their fingers certain hard bunches, called by the *Venetians*, *Spelli*; and by the *Germans*, *Leidspissen*; and by the *Latines*, *Dentes Muris*: yet it is affirmed, that the flesh of Mice is good for Hawks, to by given them every day, or every each other day together with the skin; for it helpeth their intrails, purgeth steam and choler; restraineth the fluxions of the belly; driveth out stones and gravel; stayeth the distillation of the head to the eyes; and finally corroborateth the stomach. Yet we have heard that in the Kingdom of *Calecut*, they do eat Mice and Fishes roasted in the Sun. And it is said by some Physicians and Magicians, that the flesh is good against melancholy, and the pain of the teeth; but the medicinal vertues we reserve it to its proper place.

Hurt by Mice to the body of mankind.

Medicine of Hawks.

Demetrius.

Pliny affirmeth a strange wonder, worthy to be remembered and recorded, that when *Hannibal* besieged *Casselinum*, there was a man that sold a Mouse for two hundred pieces of coin, so great was the extremity of famine, that the man which sold it, dyed for hunger, and as it should seem through the want of it, but he which bought it lived by eating thereof; the which thing argueth, that necessity, hunger, and famin, maketh men for the safegard of life, to make more reckoning in extremity of the basest creatures, then in prosperity they do of the best. For that person which gave so much money for a Mouse, at another time would have scorned to have given so much for four Oxen.

Eating of Mice.

And on the other side, the wretched love of gain, which causeth a man to endanger his own life for love of silver. But I rather think that it was the hand of God himself taking vengeance of such a covetous disposition, which would not suffer him to live, that like *Moa* had gotten so much gold.

The enemies of Mice are many, not only men, which by sundry artificial devices kill them, because of harm, but also beasts and wilde fowl do eat their flesh, and live upon them. And first of all Cats and Weefils do principally hunt to catch Mice, and have been therefore by the late Writers called *Murilegi*, for their taking of Mice. And the nature of the Weefil is not only more inclined to hunt after them, then the Cat, but is more terrible also unto them; for if the brains of a Weefil, the hair or rennet be sprinkled upon Cheese, or any other meat whereto Mice resort, they not only forbear to eat thereof, but also to come in that place. They are also driven away by the sprinkling of the ashes of Weefils; and as all noises make them afraid, so none so much as the skreeching or crying of a Weefil, for at the hearing thereof they all fall astonished. And besides, they have more opportunity to follow and take them then Cats, because their bodies are lesser, and their noses and snouts longer, and therefore they follow them many times into their holes, and very nimbly

Enemies of Mice.

Pliny.

nimbly pull them forth when they think they are most secure. Foxes also kill Mice; and in *Italy* there is a black Snake called *Carbonario*, from his colour, resembling coals, which I think to be the same that the *Græcians* call *Myagros*, from his hunting of Mice: This Snake doth also eat and devour Mice. Hawks eat Mice, and all the night-birds, especially the night-crows and Owls. How hateful a Mouse is to the Elephant, we have shewed already in that story, how in the presence thereof he will not touch his meat, nor eat any thing over which a Mouse doth run. Nor yet eat in the cratch or manger wherein a Mouse hath been. *Pozzeinus* affirmeth, that there is great love between Mice and Serpents, for sometimes they play together.

There is a hatred betwixt Bats, Frogs, and Mice, as may appear by *Anthologius*, *Museus*, and others. It is said also that they are hateful to Oysters, whereof I know no reason, except it be because they love their fish. And *Alciatus* hath a pretty embleme, which he entitleth *Captivus ob gulam*, wherein he sheweth, that a Mouse watcheth an Oyster when he gapeth, and seeing it open, thrusts in his head to eat the fish; as soon as ever the Oyster felt his teeth, presently he closeth his shell again, and so crusheth the Mouses head in pieces, whereby he deciphereth the condition of those men which destroy themselves to serve their bellies. And thus much for the love and enmity betwixt Mice and other Beasts.

Now concerning the actions of men, they hunt Mice to be rid from their annoyances, because they do not only destroy the things they eat, and live upon other mens cost; and therefore Parasites are compared unto them whom the *Germans* call *Schmoroszer*, and *Tellerlecker*, that is, smell-feasts, and lick-spickets, are compared to Mice, because they live at other mens tables. But also Mice do defile and corrupt, and make unprofitable whatsoever they taste; and therefore the *Egyptians* when they would describe corruption, do picture a Mouse.

For these causes have men invented many devices, snares, and gins, the general whereof is called by the *Latines*, *Muscipula*; and by the *Græcians*, *Muspala*, and *Myagra*, the divers and several forms whereof I will not disdain to set down. For the wise Reader must consider, that it is as necessary, or rather more necessary for most men to know how to take Mice, then how to take Elephants.

And although every woman, and silly Rat-catcher can give instruction enough therein, yet their knowledge cannot excuse my negligence, if I should omit the inventions and devices of the Ancients, whereby they delivered themselves from the annoyances of these beasts. And therefore first of all to declare the manner of catching them in places where corn is kept: Let your Mouse-trap be placed to catch Mice, right against the door, but let them have room to come in, and in short time it will so fear them, that they will trouble you no more. But if Mice breed in the ground under crevices, except you fill all the crevices with Mouse-traps, you will never catch them, which the Inhabitants of the Island *Pandataria* are fain to do.

Varrus.

There are other kinde of Mouse-traps which do catch Mice alive: and othersome which do kill them, either being pressed down with the weight of it, or stifled with water, or otherwise, as with a strong piece of Iron being small, and hung right against the button of the trap, on the which piece of Iron they hang meat, and so by that means the Mouse is caught by putting her head through the hole to snatch at the meat; for she by stirring the Iron doth loosen the button, and so her head is shut fast in the hole. And there are other kinde of Mouse-traps which are covered all over, into the which the Mouse may run; and if you have put any water therein they are presently stifled. Of all which kinde of traps shall be severally tracted: And first of all those which do catch Mice alive.

The common kinde of this Mouse-trap is made of wood, long, and four-cornerwise, and is framed of four boards, but the hinder part is strengthened with strong wiers of Iron, that she may without danger look in to see what she may get there; and that the smell of that which she findeth there, may allure her to come to it. And the former part hath a hole in the top, through which there is put a small piece of Iron; and also there is made a trap-door in form of a Percullis, to the which the Iron is very slightly hung, that when the Mouse cometh to catch at the meat, she is suddenly taken by falling of the same; but the meat which you fasten to the neather end of this Iron hook must be fat, or the crust of cheese or bread; which if it be a little toasted at the fire, it will not be amiss, that the Mouse may smell it far off. Some do make these kinde of traps double, with one door at one end, and another door at another end. These kinde of Mouse-traps *Petrus Crescent.* doth call traps belonging to houses, which shall be spoken of hereafter.

The other kinde of Mouse-trap is made with Iron hooks hung in the round circle; in the midst of the which brim is put a great many of the same wiers, which being made sharp at every end, are after the form of the top of a crest, or helmet, or as it is made in a bow-net to catch fishes; and upon the hook let there be hung meat, by which means the Mouse coming to the meat, sticketh herself upon the hooks. The manner of making lesser Mouse-traps is with Walnut-tree, and that the middle part of it be not covered, and that there be put to the mouth or brim thereof some kinde of mettle, so that the open part may bend inward, and that the Mouse may not gnaw that which is within, except she creepeth under: which if she shall do, she shall presently be shut in by stirring the trap.

Crescentien.

Also there is another kinde of Mouse-trap which is covered with the bark of a tree, which is cut into equal pieces, and laid cross one over another; but there is tied a Swines skin in the middle, and also an earthen pot covered with the same bark, being first sprinkled with corn, that the Mice may custom to come to it, and being dryed with lying, they break in pieces, but you must lay them together

together again, and fill your pot with water, by the which means as soon as ever they are upon the same, they fall into the pit, and so are stifled.

And also it is reported of those which have tryed the same, that if Mice fall into a vessel without water, and remain there a long time without meat, that then they devour one another, but if they remain there so long until one among them all be left alone, that is to say, the strongest of them all, and that he be suffered to go out, wheresoever he shall finde any Mice he will eat them up, and they shall have much ado to escape him, because he hath been so long accustomed unto them. I was told also of a certain friend of mine, that a man of *Senensis* did set a purse in a hollow place, and made it to open and shut by some devise, so that at length he took a Mouse, which Mouse he fed only with the flesh of Mice, and after he had fed it so a long time, he let it go, who killed all the Mice he did meet, and was not satisfied with them, but went into every hole that he could finde, and eat them up also. Also Mice are taken in vessels, from whence they cannot escape, upon the which vessel let there be put a small staffe, which is so cut in the middle, that she may only hold her self by the meat, and when you have so done, put the kernel of a Nut upon the middle of the staffe, to the which the Mouse coming, doth fall into the vessel with the staffe, and they will be stifled if there be any water: but if there be none she will be killed.

And again, he telleth of another manner of catching of Mice, which is as great as the first, and it is after this manner: Take two smooth boards about the length of thy arm, and in breadth half thy arm, but joyn it so together, that they may be distant from the lower part in length some four fingers or little less, with two small spindles or clefts, which must be at every end one, and fasten Paper under them, and put a piece of paste therein, being cut overthwart in the middle, but you must not fasten it nigh the middle, and let it be so bound, that it may easily be lifted up betwixt the spindles, that if by slipping it should be altered, it might be brought again to the same form. But the two spindles spoken of before, ought to be joyned together in the ends above, and beyond them another small spindle to be made, which may hold in the middle a crooked wedge or batten, upon the which may be hanged a piece of Hogs skin, so that one of them may easily be turned upsidown with the skin, and put thereunto a little piece of earth or stick, that the Mice may easily come to it: So that how many Mice soever shall come thereto, and to the meat, shall be taken, always by rowling the Paper into his wonted place.

There is another manner also, which is to make a round piece of wood fastened on both sides with Needles, and made so that the hinder part of it weigh heavier then the former, and that it stand an inch higher then the other, and then when you have so placed it, throw some corn thereon, that the Mice may be allured thereto, and tie also a piece of flesh upon the former end of it; and so the Mouse going into the middle, by the rowling off the same, slippeth into the kettle which standeth under it, which must be half full of water, the circle presently being as it was before, that very often many Mice are caught in one night by this work, all falling into the kettle. Also there are many kindes of Mice-traps, where Mice do perish by the weight thereof, and they are made of a small piece of wood made hollow, into the which shall fall down another small piece of wood; but it must be made so, that it may fall weighty to press down the Mice going to the meat, and let the meat be tied to another little small piece of wood, which being touched, the heavy piece doth presently fall down, and so by that means the Mouse is taken.

Our Country men do make a trap which is somewhat like to this, let two pieces of boards be joyned together one foot broad, & two foot long, and afterwards let there be put in them a wooden pin, which you must fasten to the lower board, so that it may not touch the uppermost; and you must set it so, that the former part may easily move backward and forward; but moreover, the former board must be fastened to the hinder, like the fashion of a Gibbet or Gallows, with two pieces of wood standing upright, one being put overthwart, or after the fashion of the Greek letter Π , and it must stand some nine inches high, and as broad as the board will suffer you, and let the meat be hung in the middle of it, but that board which is uppermost, must touch both the ends of the other, and notched according to the breadth, the notch being made after the form of a wedge divided into two parts; and another small piece of wood must be put to that which is uppermost, almost two fingers long, and one finger broad, and let there be put into the lower notch a piece of wood with meat at it, so that it may be slightly fastened to the brim of the uppermost, that the meat being presently touched, the other may the easier fall.

And you may lay a stone upon the uppermost board, that it may fall the heavier. And there are some also which to the lower board do fasten iron pins, made very sharp; against the which the Mice are driven by the weight of the fall. Furthermore, there is another kinde of trap made to cover them alive, one part of it cut out of a small piece of wood, the length of the palm of thy hand, and the breadth of one finger, and let the other part of it be cut after the form of a wedge: and let this piece of wood be erected like a little pillar, and let the wedge be put into the notch of another piece of wood, which must be made equal with the other, or very little shorter: and this pillar must be so made, that the Mouse may not perish before she come to the meat: the wood where the meat must stand, ought to be a span long, and you must fasten the meat about the middle of it, but the former part of it must have a cleft, which must begin a little from the brim, and shall be made almost the length of two fingers, and you must make it with two straight corners, and take away half the breadth of the wood. These three pieces of wood being thus made ready, thou shalt

shall erect a little pillar, so that the wedge may be downward, whereby the Mouse may see the meat every where: and let the meat be hung in the former corner of the pillar, so if the Mouse shall touch the meat, he shall be pressed down with the fall of the board. Mice also by the fall of a cleft board are taken, which is held up with a pillar, and having a little spatular of wood, whereon the meat shall lye, so made that the pillar doth not open being parted, except when the Mouse cometh to touch the meat, and so by that means she is taken.

There is also another manner of Mouse-trap used among us, which is, let there be a hole made and compassed about with a board of a foot long, and five or six fingers broad, the compass whereof must be four fingers; into this hole let there be put a vessel made of wood the length of ones fist, but round and very deep; and in the middle of each side of this vessel let there be made a hole, wherein there is put in a thread made of Iron with meat, and let it be compassed about with a small thread which must be fastened overthwart the hole: and the part of the thread which hangeth down must be crooked, that the meat may be fastened thereto, and there must be a piece of the thread without, to the which may be tied a stronger piece of wood, which is the thread whereon the meat is hanged, by the which the Mouse is taken, by putting her head into the vessel to catch at the meat.

And also Mice are taken otherwise, with a great Cane wherein there is a knot, and in the top of it let there be made a little bow with a Lute string, and there stick a great needle in the middle of the pole of the Cane, and let the pole be made just in the middle, and let there be bound a piece of flesh beneath, so prepared, that when the Mouse shall bite, and move the skin, that then the string slip-peth down, and so the needle pierceth through his head, and holdeth him that he cannot run away. But among all the rest, there is an excellent piece of workmanship to catch Mice; which I will here set down: Take a piece of wood, the length of both thy fists, one fist broad, and two fingers thick, and let there be cut off about some two fingers, a little beyond the middle of half the breadth. And that breadth where it was cut, ought to be more declining and lower, after the manner of this letter A. And you must put to the side of this a piece of wood, half a circle long, bending, and in the middle part of each side holes pierced through, so that the half circle may be strait, and plainly placed to the foundation of the wood, that the trap being made, it may rest upon the same half circle, and upon this half circle let there be placed Iron nails very sharp, so that the instrument by falling down may cover the Irons of the half circle as soon as ever they touch the same.

Furthermore, there is another manner of trap, when a vessel out of which they cannot escape, is filled half up with water, and upon the top thereof Oatmeal is put, which will swim, and not sink, making the uppermost face of the water to seem white, and solid, whereunto when the Mouse cometh, she leapeth into the Oatmeal, and so is drowned: And the like may be done with chaffe mingled with Oatmeal: and this in all traps must be observed, wherein Mice are taken alive, that they be presently taken forth, for if they make water in the place, their fellows will for ever suspect the trap, and never come near it, till the savour of the urine be abolished.

Calladius saith, that the thick froth of Oyl, being infused into a dish or brasen Caldron, and set in the middle of the house in the night time, will draw all the Mice unto it, wherein they shall stick fast, and not be able to escape.

Anatolius.

Pliny saith, that if a Mouse be gelded alive, and so let go, she will drive away all the residue; but this is to be understood of the Sorex. If the head of a Mouse be flead; or if a male Mouse be flead all over, or her tail cut off; or if her leg be bound to a post in the house, or a bell be hung about her neck, and so turned going, she will drive away all her fellows. And (*Pliny* saith) that the smoke of the leaves of the Ewe tree, because they are a poyson, will kill Mice, so also will Libbards-bane, and Henbane-seed, and Wolf-bane, for which cause they are severally called *Myoetones*, and the roots of Wolf-bane, are commonly sold in *Savoy* unto the Country people for that purpose.

In *Germany* they mingle it with Oatmeal, and so lay it in balls to kill Mice. The fume of Wall-wort, Calcauth, Parsely, Origanum, and Deaths-herb do also kill Mice: you may also drive them away with the fume of the stone Hamatites, and with green Tamarisk, with the hoof of a Mule, or of Nitre, or the ashes of a Weefil, or a Cat in water, or the gall of an Ox put into bread.

The seed of Cowcubers being sod, and sprinkled upon any thing, Mice will never touch it, likewise wilde Cowcumber and Coloquintida, kill Mice. To keep Mice from Corn, make mortar of the froth of Oyl mingled together with chaff, and let them well dry, and afterwards be wrought thoroughly, then plaister the walls of your garnery therewith, and when they are dry cast more froth of Oyl upon them, and afterwards carry in your corn, and the Mice will never annoy it.

Cato.

Wormwood laid among clothes, and skins, defend them from Mice: And also the water of Wormwood sod, sprinkled upon clothes hath the same operation.

Tragus.

Ink tempered with water, wherein Wormwood hath been washed, or sod, causeth that the Parchment and Paper written therewith, shall never be eaten, or touched with Mice.

Avicen.

Anatolius and *Tarentinus*, in the discourse of the granery or barn, do write, that Milk-thistle mingled with Hony, Water, and fine Flower, or Mil-dust, made into little balls, and laid where Mice may eat of it, doth make them blinde if they tast thereof. White Hellebore mixed with potage, or the seeds of wilde Cowcumber, Coloquintida, and Meal, mingled with black Hellebore, and

Pascaus.

put

put into Cheefe or Bread, or any other kinde of fat meat, killeth both Rats and Mice. So likewise a white Camelion sod in broth, mingled with water and Oyl, killeth Dogs, Swine and Mice.

The juyce of the root of the herb Camelion, mixed with Water and Oyl, draweth Mice unto it, and killeth them by tasting thereof, if they drink not presently: so also doth Henbane. The roots of the bramble Tree, mingled with Butter, Bread, or Hony, Elecampane, and Sea Onions, Scammony, wilde Sparage, Arlenick, Mug-wort, otherwise called Mouse-wort, mingled with Lard in small pieces, with Auripigment, killeth Wols and Mice; and in some Countries, for the better dispersing of the poyson, set drink beside the same, whereof assoon as they tast, they swell and die; but I have seen them die without drinking at all. Mice and Wols, if they tast of the wilde Rose, and drink after it, do not only die, but also fall into madness and bite their fellows, communicating the quality of the disease to every one they bite. Flesh cut into little pieces, and fryed with Butter in a frying pan, and afterwards when it is cold, adde half so much soft pitch thereto, and mingle it together, rowling up the flesh in the Pitch, then distribute it upon little bords, and set it in the place, and places whereunto the Mice do much resort, and water beside it, and when that they have tasted of it a little, they are so eagerly a thirst, that they drink and die.

The like I may say of Rats-bane, Quick-silver, Sublimate, and Precipitate, and divers other things; and thus much may suffice for the catching, taking, and killing of Mice, whereunto I may adde the use of their members and parts, not medicinal, but natural, although I have touched it heretofore in part.

The *Scythians* were wont to be clad with the skins of Mice and Woolfs, and it is observed, that when Mice cry and screeke above their ordinary custom, it presageth an alteration and change of the weather; and thus much shall suffice for their natural discourse.

Having thus discoursed of the nature of the vulgar Mouse, I may also add the moral use thereof, as I finde it recorded among learned Writers, delivered either In History, or in Proverb. It is reported of *Glaucus* the son of *Minos* and *Pasiphae*, that while he followed a Mouse to take her, he fell into a vessel of Hony; but after *Polyades* the Prophet, by laying an herb on him, raised him again to life. *Hatto* an Archbishop of *Metz* in the frontiers of *Germany*, was destroyed by Mice, or as other say by Rats; but the words of *Textor* are;

Hatto Archiepiscopus Moguntiinus a muribus fertur devoratus.

And the error may proceed, because that *Mus* is a general word for the Rat and Mouse; and therefore they which have thought it an unreasonable thing, that so small beasts should destroy so mighty a Prince, have rather attributed it to the Rats then to the Mice; but they ought to have remembred, that it was an extraordinary judgement of God to punish a cruel covetous wretch, and that therefore it was as easie for him to make the little Mouse his instrument, as the great Rat: for we read, that *Herod* was devoured by Worms; and other have been eaten up with Lice. *Adrian* the Pope was strangled by a Fly; and therefore *Hatto* an Archbishop might aswell perish through the afflicting hand of God by a multitude of Mice.

Heliogabalus that wretch, amongst other his monstrous desires, and Tyrannical commands, *Lampridius* affirmeth, that upon a time he commanded, that there should be brought unto him ten thousand Mice alive, a thousand Weefils, and a thousand *Sorices*, or wilde Field-mice, so base were his thoughts, that while he should have attended his Emperial calling, and hearkened to the suits and complaints of poor distressed subjects, he was busied in killing of Mice, and therefore in ancient time, a Mouse-killer was taken for an opprobrious speech, for a base, sluggish, and idle companion.

The like is reported of a *Muscovian* Emperour, who to afflict his people, and to gather mony from them, commanded the Citizens of *Musco*, to bring him a peck full of Fleas: whereunto the people answered, that if they could take so many, yet could not they keep them together from leaping away. And Mice have been brought into publick spectacle, because at *Lavinium* they gnawed asunder the shields of silver; and it was afterward judged a prodigy; for there followed the *Marfick* war. When the *Scythians* understood that *Darius* with his great Army, stood in need of victuals, they sent unto him a Provant-master with these presents or gifts, a Bird, a Mouse, a Frog, and five darts. At the receipt whereof the *Persians* wondered what should be meant thereby; and demanded of the messenger the meaning of the mystery. But the Ambassador answered, he knew not any signification of his presents, but only received charge to deliver them, and make hast back again, and to bid the *Persians*, if they were wise, to lay their wits together, to know and understand the meaning thereof. When the *Persians* heard him say so, they fell to consultation. *Darius* gave his opinion, that the Mouse, signified the earth; the Frog, the waters; the Bird, Horses; and the Darts, warlike furniture and strength of forces; and that the *Scythians* by sending all these unto them, yeilded that the *Persians* should be Lords of their Land, Sea, Horses, and themselves, and that therefore they ought to be of good courage.

But one *Gobrias*, a grave Counsellor, who was one of the seven that slew the *Magi*, or Wizards, answered otherwise, for his conjecture was more true: for said he; *O Persae, nisi effecti ut aves subvioletis in Caelum, aut ut Mures subeat in terram, aut ut ranæ insiliatis in paludes, non remeabitis unde venistis his sagittis confecti*: O ye *Persians*, except ye become like Birds, to flie up into heaven; or like Mice, to creep into the earth; or like Frogs, to leap into the waters, you shall not return

back again unto the place from whence you came, and so indeed it came to pass. We read 1 Sam. 5. that when the Ark of God was taken by the *Philistines*, and they kept it in their Temple at *Haz-zah*, the hand of the Lord fell upon their Princes, and he smote them with Emrods, in the bottom of their belly, that is, God punished them with Mice, for he afflicted their bodies, and the fruits of the earth, for which cause *cap. 6.* they advice with themselves, to send back again the Ark of the Lord with a present of Golden Mice. *Ovid, Homer, and Orpheus*, call *Apollo Smyntheus*, for the *Cretians* in ancient time called Mice *Smynta*: Now the fained cause thereof is thus related by *Ælianus*:

There was one *Crinis* which was a Priest of *Apollo*; who neglected his daily sacrifice, for the which through abundance of Mice he was deprived of the fruits of the earth, for they devoured all. At which loss *Apollo* himself was moved; and taking pity of the misery, appeared to one *Horda* a Neat-herd, commanding him to tell *Crinis*, that all the cause of that penury was, for that he had omitted his accustomed sacrifice, and that it was his duty to offer them again diligently, or else it would be far worse afterward. *Crinis* upon the admonition amended the fault, and immediately *Apollo* killed all the devouring Mice with his darts, whereupon he was called *Smyntheus*. Others again say, that among the *Æolians*, at *Troas* and *Hamaxitus*, they worshipped Mice and *Apollo* both together, and that under his Altar they had meat and nourishment, and also holes to live in safely: and the reason was; because once many thousand of Mice invaded the corn fields of *Æolia* and *Troy*, cutting down the same before it was ripe, and also frustrating the husbandman of fruit and hope: this evil caused them to go to *Delphos*, to ask counsel at the Oracle what they should do to be delivered from that extremity; where the Oracle gave answer that they should go sacrifice to *Apollo Smyntheus*; and afterward they had sacrificed, they were delivered from the Mice, and that therefore they placed a statue or figure of a Mouse in the Temple of *Apollo*.

Sacrificing of
Mice.
Scholiast. Lic.

When the *Trojans* came out of *Creet*, to seek a habitation for themselves, they received an Oracle, that they should there dwell, where the Inhabitants that were born of the earth should set upon them; the accomplishing whereof fell out about *Hamaxitus*; for in the night time a great company of wilde Mice set upon their bows, quivers, and frings, leathers of their bucklers, and all such soft instruments, whereby the people knew, that that was the place, wherein the Oracle had assigned them to build the City; and therefore there they builded *Ida*, so called after the name of *Ida* in *Creet*: and to conclude, we do read that Mice have been sacrificed, for the *Arcadians* are said first of all to have sacrificed to their Gods a Mouse; and secondly a white Horse; and lastly the leaves of an Oak.

And to conclude, *Ælianus* telleth one strange story of Mice in *Heraclea*, that there is not one of them which toucheth any thing that is consecrated to Religion, or to the service of their Gods. In-fomuch, that they touch not their Vines which are sacred to religious uses, but suffer them to come to their natural maturity, but depart out of the Island, to the intent that neither hunger nor folly cause them to touch that which is dedicated to divine uses. And thus much for the natural and moral hory of Mice; now followeth the medicinal.

The Medicines of the Mouse.

Albertus.

The flesh of a Mouse is hot and soft, and very little or nothing fat, and doth expel black and melancholy choler. A Mouse being flead or having his skin pulled off, and afterwards cut through the middle, and put unto a wound or sore wherein there is the head of a Dart or Arrow, or any other thing whatsoever within the wound, will presently and very easily exhale and draw them out of the same. Mice being cut and placed unto wounds which have been bitten by Serpents, or put to places which are stinged by them, do very effectually, and in short space of time cure and perfectly heal them. Mice which do lurk and inhabit in Houses, being cut in twain, and put unto the wounds which are new made by Scorpions, doth very speedily heal them.

Marcellus.

Dioscorides.

Pliny.

Marcellus.

Pliny.

Dioscorides.

A young Mouse being mingled with Salt is an excellent remedy against the biting of the Mouse called a Shrew, which biting Horses and labouring Cattel, it doth venome until it come unto the heart, and then they die, except the aforesaid remedy be used. The Shrew also himself being bruised and laid unto the place which was bitten, is an excellent and very profitable remedy against the same.

A Mouse being divided and put or laid upon Warts, will heal them and quite abolish them, of what kinde soever they shall be. The fat which is distilled from Mice, being mixed with a little Goose-grease and boyled together, is an excellent and medicinable cure for the asswaging and mollifying of swellings and hard lumps or knots which do usually arise in the flesh. Young Mice being beaten into small bits or pieces, and mixed with old Wine, and so boyled or baked, until they come unto a temperate and mollifying medicine; if it be anointed upon the eye-lids, it will very easily procure hair to grow thereon. The same being unbeaten and roasted, and so given to little children to eat, will quickly dry up the froath or spittle which aboundeth in their mouth. There are certain of the wise men or *Magi*, who think it good that a Mouse should be flead, and given to those which are troubled with the Tooth-ach, twice in a month to be eaten. The water wherein a Mouse hath been sod or boyled, is very wholesome and profitable for those to drink who are troubled with the inflammation of the jaws or the disease called the Squincy. Mice,

but

but especially those of *Africk*, having their skin pull'd off, and well steeped in Oyl, and rubbed with Salt, and so boiled, and afterwards taken in drink, are very medicinable for those which have any pain or trouble in their lights and lungs. The same medicine used in the aforesaid manner is very profitable for those which are troubled with a filthy, mattery, and bloody spitting out with retching. *Pliny.*

Sodden Mice are exceeding good to restrain and hold in the urine of Infants or children being too abundant, if they be given in some pleasant or delightful drink. Mice also being cut in twain, and laid unto the feet or legs of those which are gowty is an excellent remedy and cure for them. Mice being dried and beaten to powder, doe very effectually heal and cure those which are scalded or burned with hot water, or fire. Cypres nuts being burned and pounded, or beaten into dust, and mixed with the dust of the hoof of a male or female Mule, being dried or stamped small, and the Oyl of Myrtle added unto the same, with the dirt or dung of Mice being also beaten; and with the dung of a Hedge-hog new made, and with red Arsenick: and all mingled together with Vinegar, and moist or liquid Pitch, and put unto the head of any one who is troubled with the abundance and loose hanging down or over-growing of his hair, it will very speedily and without any difficulty ease him of the same. *Marcellus.*

The dust of a Mouse pounded and beaten to powder, and mingled with a certain Oyl, is very good and wholesome, for those which are grieved with a Tetter, or scab, which may over-run their whole body. The brains or tail of a Mouse being dried and beaten to powder, is very medicinable for those which are troubled with the casting and shedding of their hair; as also for the disease called the Foxes evill; but this operation will work more effectually, if the shedding of the hair doth happen by any venom or poyson. The same in operation hath the whole body of the Mouse being used in the aforesaid manner. *Pliny.*

There is also another excellent remedy to cure and heal the aforesaid disease, which is this: To take Mice which inhabit in houses, and to burn or dry them in a pot, and then beat them; and being so used, to mix them with Oyl of Lawrel, and to rub the hairs which are like to fall or shed with Garlick; and to put them all together into a Frontlet or fore-head cloth, and daily to keep the same medicine or plaister unto them, until the hair do grow fast, and they be rid of that disease. There is also another remedy for the same disease, which is this: To burn a Mouse, and beat him into powder, and then to mingle the same with Hony, and the grease of a Bear, and so to anoint the head, and this is accounted for a very speedy and effectual cure. *Galen.*

The dust or powder of Mice being mixed with Hony and Oyl of Roses, and so baked, or boiled together, and afterward distilled into a clear water, and so poured into the ears of any one which is deaf, or troubled with any pain in his ears, and it will quickly bring him help and remedy. The dust of a dried Mouse being also mingled with Hony, and rubbed upon the teeth of any one which is troubled with a stinking breath, will presently take away the savour thereof. If the urine of a man or woman be too fluent and abundant, let them take the dust or powder of a dried Mouse, being beaten and stamped, and mix it with Wine or with Goats milk, and so drink it up, and he shall speedily have remedy. The grievous and violent inflammation or turning of the eye-lids, is cured after this manner: First, they take the flesh of the Mice, as soon as ever it is beaten small, and mingle it with the yolk of an Egge, and mollifie it into a salve or plaister like unto wax, and then put it into a linnen cloth, and so wrap it upon the eye-lids in the time of sleep, and it will easily bring help and remedy. *Pliny.*

There is an excellent remedy for the over-spreading of the eyes, or to cure the disease in them, called the Pin and the Web; or to help them which are altogether blinde, which is this: To take the blood of a Mouse, the gall of a Cock, and some part or quantity of womans milk, and to take of each of them alike, and then to mingle or mix them together, and being well wrought or kneaded until it come to an ointment, to rub or spread it upon the eyes: and this will in very short space help them unto their sight; for it hath been tryed, and hath helped many. *Marcellus.*

The skin of a Mouse being burned or dried, and beaten into powder, and so mingled with Vinegar, and then anointed upon the head of any one who is pained or troubled with the Head-ach, it will presently ease and help him. The head of a Mouse being also born or carryed in a linnen cloth, doth cure the same disease. The heads of Mice being burned, and beaten into small powder, and then mixed or mingled with Hony, and so anointed upon the legs or feet of them which are troubled with the Gowt, are excellent good and wholesome for the curing of that grievous disease. The same vertue hath the tails or bodies of Mice, being used in the aforesaid manner. Some do think, that the aforesaid disease is more speedily and effectually cured after this manner: First, to take a Beetle or Horse-fly, and stamp it all to pieces, and then to mingle it with soft and liquid Pitch, the skin being prepared or made ready with Nitre: but there must be great care taken, that it eat not too far in the flesh: then to take the head of a Mouse, and the gall and dung of a Mouse, and mingle them together with Ling-wort and Pepper, and so to anoint them, and spread them upon the aforesaid eaten or lanced wounds: and this is very much commended for a very good and medicinable cure for the aforesaid disease. *Galenus.*

The heads of Mice dried and beaten into powder or dust, and then mixed with Hony, and so anointed upon the eyes for the space of ten days together, will clarify the eyes, and expel all pain or blemishes from them. Of the heads of Mice being burned, is made that excellent powder, for the scowring and cleansing of the teeth called Tooth-soap: unto which if Spikenard be added *Pliny.*

- added or mingled, it will take away any filthy sent or strong savour in the mouth. The brains of a Mouse being taken and put or steeped in Wine, and stamped, and beaten small, and anointed upon the brow or fore-head of any one who is troubled with a pain or ach in the head, and he shall soon finde ease and remedy. If any man shall but touch or kiss with his mouth the snout or nostrils of a Mouse, and be troubled with the disease called the Rhume, which falleth down and stuffeth the nostrils, he shall in very short space be eased of the same. The *Magi* or wise men, do very much commend this medicine for the expelling of a quartain Ague or Fever, which is thus; To take the nose or snout of a Mouse, as also the very tops of the ears, and bruise them together, and afterwards tie them in a linnen cloth, which hath had Roses or Rose-leaves in the same, and then binde them unto the arms or wrists of him which is so troubled, and they will very effectually and speedily cure and heal him. For the rottenness and deminishing of the teeth, the best remedy is to take a living Mouse, and to take out one of her teeth, whether the greatest or the least it is no great matter, and hang it by the teeth of the party grieved: but first kill the Mouse from whom you had the tooth, and he shall presently have ease and help of his pain. The heart of a living Mouse being taken out, and hanged upon the left arm of any woman, is of such force and power, as it will cause her never to conceive. The laps or fillets of the liver of a Mouse, being beaten small and mingled with four drams of sowre and unpleasant Wine, is an excellent remedy for those which are troubled with quakings in their joynts; as also for Fevers and shaking Agues. A Mouse being cut or parted in the conjunction of the Sun and the Moon, and the liver pulled out and roasted or boiled, and given to one which is troubled with the aforesaid disease to eat, will very speedily and without any difficulty or pain cure and heal him of the same. The gall of a Mouse being beaten very small, and steeped or washed in Vinegar, and so poured or distilled into the ears of any one who is deaf or thick of hearing, or hath any ach or pain in the same, is counted for the chiefest, and most singular and chiefest remedy or cure which is used for the same.
- Marcellus.* The dung or dirt of a Mouse being new made, is very profitable for those which are troubled with the disease called the *Sciatica*, or Hip-gowt, anointed or rubbed upon the same. Mouse-dung being also mingled with Vinegar and Oyl of Roses, and so anointed or spread upon the fore-head or temples of any one who is troubled with the head-ach, will presently ease and help him of the same.
- Myrepus.* The gum called Benzoin being mixed with Wine and Saffron, and Pepper; as also with the dirt or dung of Mice being new made, and mixed with Vinegar, and mingled all in one medicine, and so strained and given to one to drink, which is spare and lean, in some short space or time it will make him grow very fat.
- Sextus.* The dung or dirt of a Mouse being mingled with certain other medicines, is very good and wholesome for those which are troubled with Tettors, and dry scabs which over-run the whole Body.
- Galen.* The dung of Mice being mingled with the dust or powder of Frankincense, with a little red Arsenick added thereunto, is a very profitable and wholesome medicine for those to use which are troubled with little hard red bunches and swellings arising in divers and several parts of the body. Seven pills being taken out of the dung of a Mouse, and mingled with Vinegar, and anointed upon the fore-head and temples, of those which are grieved therein, will very speedily help and cure him.
- Pliny.* The inward parts of earth mixed with Mouse-dung, white Pepper, and Myrrhe, being of each of them half an ounce, and afterwards mingled with Vinegar all together; and so anointed upon the head of any one which is troubled with the Megrim, will very effectually and speedily ease and rid him of the same. The herb called *Strumus* beaten together with Mouse-dung, and afterwards mixed with Vinegar, is an excellent remedy against the swellings in the head, or little bunches which arising therein become fores, and are full of matter and filthy corruption. The dung or dirt of Mice being melted, dissolved, and mingled with Vinegar, and then rubbed upon the head of any one who is troubled with the scurf or skaules thereon in a bathe or stove, will presently expell and drive them quite away.
- Archig. nes.* The dung of Mice being mingled with Frankincense, and so beaten or tempered together until they come unto the likeness or thickness of Hony, and then anointed upon the legs or feet of any one that is troubled with the Gowt, he shall finde present help and remedy. The same disease also is very effectually cured by the dung of a Mouse, and burned or scorched Barley mingled together, of each being the same weight or quantity, and afterwards mixed with Vinegar all together, and so spread or anointed upon the diseased parts. There is also another excellent remedy for curing of the aforesaid disease, which is thus: To take Cantharides, and bruise them all to pieces, and mingle them with soft or liquid Pitch, and also with Nitre, and so anoint or rub them upon the skin being prepared for the purpose; but there must be great care had, that the skin be not rubbed or lanced too far. Afterwards unto the wound so made, there must be taken the heads, galls, and dung of Mice, being mixed with the herb Lingwort, and Pepper; and so beaten all together until they come unto a temperate salve or medicine, and then anointed upon the said wounds, and they will in very short space cure the same.
- Pliny.* The hairs and dung of a Mouse, parched or dried by the fire, and anointed upon the eye-lids of any one which are pield or bare, will presently procure hair to grow thereon.
- Alexius Pe-*
demontanus. Mouse-dung being dried in the shade is an excellent remedy against the voiding or spitting of blood which floweth from some parts of the body, but especially from the belly. The same

same is also very good to stanch the blood which issueth from wounds being new made. White Sceny-feed, and the dung of a Mouse or Hare being put into broth, with the stem or stalk of Fennil, and so boyled together, and afterwards given unto a woman to drink who is destitute of milk in her breasts, will presently and very speedily procure her milk in great abundance.

The dung of Mice being steeped or washed in rain water, doth ease and refresh the swelling of womens dugs in their time of delivery. The dung of a Mouse being given in any drink or liquor to one that is troubled with the disease called the Colick and stone to drink, will in very short space or time cure him of the same. Mouse-dung being also taken in drink, doth loose the body of either man or woman, how fast soever they be bound. There is an excellent remedy arising from Mouse-dung against the *Sciatica*, or Hip-gowt, which is this: To take nine grains of a Mouses dung mixed or mingled with half a pinte of Wine, and given to the party grieved upon a bench or foot-stool to drink, so that he drink it standing upon that foot only which paineth him, even at the Sun rising; and having so drunk it, let him leap down, and afterwards let him leap three times, and let him do this but three days together, and he shall have present help and remedy of his disease.

Mouse-dung mixed with Frankincense and sweet Wine, and so drunk by any one which is troubled with the Colick and Stone, will presently ease him of the same. But the dung of Mice mingled with Frankincense, Water, and Hony, and so boyled together, and drunk, doth not only drive away the pain of the aforesaid disease, but also doth break and quite dissolve the Stone. Mouse-dung also being taken in drink by it self alone, doth dissolve and mele the Stone in the Bladder. The same being also boyled in water, is very good and profitable for those which cannot make water. The same being new made and anointed upon the belly of any one who is troubled with the Colick or Stone, shall finde present ease and remedy thereby.

There is yet moreover another excellent medicine proceeding from this dung, whereby the fruit in a womans womb may be brought forth either dead or putrified, without any hurt or prejudice unto the woman, which is thus: First to take *Egyptian Salt*, Mouse-dung, and Gourds which are sown in Woods; and afterwards to pour in half a pinte of Hony, being half boyled, and to cast one dram of Rozen into the Hony, the Gourds, and the Mouse-dung, and beat them well and thoroughly together, and then rowl them up, and fashion them in the manner of Acorns, and put them to the belly of the party so grieved as often as you shall think it meet and convenient, and in using this some short space or time, you shall see the aforesaid putrified fruit to proceed and issue forth.

Mouse-dung being parched or burned, and mingled with Hony, is very good and medicinable aswell for those which are troubled with the swellings in their legs and feet; as also for those whose eye-lids are pilled and bald, to make hair to grow again upon them, being spread or anointed thereupon. The dung of Mice being dryed and beaten into small dust or powder, and put into the teeth of any one which are hollow, will presently expel away all pain from them, and also confirm and make the teeth strong. The dust or powder which proceedeth from Mouse-dung, is also very good to cure any disease in the fundament of either man or woman.

The urine of a Mouse is of such strong force, that if it shall but touch any part of a mans body, it will eat unto the very bones. The bitings of Mice are healed by no other means but by green Figs and Garlick being mixed or mingled together, and so anointed thereupon.

Of the RAT.

There is no doubt that this Beast belongeth also to the rank of Mice, and the name thereof we have shewed already, is common both to the *French*, *Spanish*, *Italian*, and *English*, and it may seem to be derived from the *Greek* word *Raster*, or *Heurex*, or *Risor*, for the *Grecians* use all those words. And this beast is four times so big as the common Mouse, being of a blackish dusky colour, more white on the belly, having a long head, not much unlike the head of the Martin; short and round ears, a reasonable rough skin, short legs, and long claws, and exceeding great eyes, such as can see very perfectly in the dark night, and more perfectly then by candle light; with their nails they climbe up steep and hard walls, their tail is very long, and almost naked, void of hair, by reason whereof it is not unworthily counted venomous; for it seemeth to partake with the nature of Serpents. The quantity of their body is much like a Weefils; and sometime you shall see a Rat exceeding the common stature, which the *Germans* call *Ratzen Kunig*, the King of Rats, because of his larger and greater body; and they say that the lesser bring him meat, and he lyeth idle. But my opinion is, that as we read of the Dor-mouse, she nourisheth her parent when she is old; so likewise the younger Rats bring food unto the elder, because through their age, they are not able to hunt for themselves, and are also grown to a great and unweeldy stature of body. Sometimes you shall see white Rats, as was once seen in *Germany*, taken in the middle of *April*; having very red eyes standing forth of their head, and a rough and long beard. And at *Ausburg* in *Germany*, about the Temple called the Church of *S. Huldric*, they abound in greater number then in other places. They do not lie in the earth like Mice, except in the vally of *Loachim*, where for the Summer time they forsake houfes, and go into Cony holes, but

Serenus.

Marcellus.

Dioscorides.

Avicen.

Pliny.

Hippocrates.

Avicen.

Marcellus.

The vulgar Rat, or great domestical Mouse. The quantity of Rats and their parts.

but in the Winter time they return to the houses again. They are more noysome then the little Mouse, for they live by stealth, and feed upon the same meat that they feed upon, and therefore as they exceed in quantity, so they devour more, and do far more harm. They are killed by the same poysons and meats that the common Mice are killed, except Wolf-bane; for if they eat thereof, they vomit it up again, and are safe. They are also taken in the same traps, but three or four times so big: Their flesh is far more hot and sharp then the flesh of the vulgar Mouse, as we have gathered by the dissection of it, and therefore in operation it is very like that it expelleth and dryeth more then the other.

Medicines by
Rats.

Poyson of
Rats.

The excrements are also of the same vertue; and with the dung of Rats the Physitians cure the falling off the hair. And it is said also that when they rage in lust, and follow their copulation, they are more venomous and dangerous then at other times. For if the urine do fall upon the bare place of a man, it maketh the flesh rot unto the bones, neither will it suffer any scar to be made upon the ulcer; and thus much of the vulgar Rat.

Of the WATER-RAT.

Names of Wa-
ter-rats.

Meat of Wa-
ter-rats.

Places of Wa-
ter-rats abode.

A wonder in
the parts of a
female Rat.

Seeing there are two kinds of Rats, one of the earth called *Rattus terrestris*, and the other of the water called *Rattus Fluvialis*, of which we are now to entreat, being also called of the Latines, *Mus aquaticus*; by the Germans, *Twassermaus*, and *Wasserrat*; by the Italians, *Sorgomogange*; by the French, *Rat d'eau*. This beast hunteth fishes in the Winter, and have certain caves in the water sides, and banks of the Rivers or Ponds: For which occasion it being seen in the waters, deceiveth their expectation which look for the return of it to the land. And this beast hath been forgotten by the Ancients, for they have left

of it no description nor story, because it liveth partly in the water, and partly on the land, and therefore he said true, that spake of the habitation and place of abode of this beast, in this sort; *Ego non in fluviis, nec aliis aquis magnis, sed parvis tantum rivis atq; herbosis omnium ripis, hoc animal frequentissimum versari audio.* That is to say; That this beast doth not keep in great Waters or Rivers, but in small and little currents and Ponds, where abundance of grass and other weeds do grow on the sides and banks: *Pliny* attributeth that to the Water-rat, which is proper to the Tortoise; for indeed there is some similitude of natures bewixt these beasts, with this exception, that the females in this kinde have three visible passages for their excrements, one for their urine, another



another for the dung, and the third for the young ones; that is a peculiar place for the littering of their young ones; and this Water-rat over and beside her common nature with other Rats, doth swim over Rivers, and feed upon herbs; and if at any time she be hunted from her native biding and accustomed lodging, then also she goeth among vulgar and common Rats and Mice, and feedeth upon such as they eat: and (*Bellonius* saith) that there are great store of these in *Nilus* and *Strymon*, and that in calm nights when there are no windes, they walk to the shores, & get up upon the banks, eating and gnawing such plants as grow near the waters; and if they hear any noise, they suddenly leap into the waters again. He expresth also the figure of this Rat, which we have omitted because it resembleth in all parts the common Rat, excepting the snout or beak which is rounder or blunter. Among some of the Ancients also, there is mention made of this beast; and no more. Therefore *Aristotle* saith in the *Arcadian Luse*, which is a City so called, (as *Stephanus* writeth,) where *Malampus* did wash the daughters of *Prætus*, and delivered them from their madness: There is a certain Fountain, wherein do live Rats of the Earth, (they should say Rats of the Water,) for hereunto agree both *Pliny* and *Theophrastus*. Likewise in a River of *Cassius*, the ancient Wise-men, which were followers of *Zoroastres*, made great account of the Hedgehog, but hated deadly the Water-rats, and said, that he that could kill most of them, was most dear and acceptable to God. And furthermore they said, that Dogs, Hens, and Hedgehogs, did proceed, and were attended from and by good Angels, and Water-rats by evill. And thus much shall suffice for the discourse of the Rat. The story which ensueth is of strange and less known Mice; and therefore I will distribute them after an alphabetical order, according to their several names.

Of the ALPINE MOUSE.

THE *Alpine Mouse* taketh her name from the *Alpes*, wherein she is bred, and although there be many other kinds of Mice bred in the *Alpes*, yet this being the principal thereof, receiveth denomination from the Mountains, because they are bred in the very tops of the Mountains, and seldom or never come down to the roots. The *Italians* call it *Marmota*, and *Murmot*, and according to *Mathæolus*, *Marmontana*; the *Rhetians*, *Montanella*; and in some part of *Italy*, *Varrofa*; in *France*, *Marmote*; although *Marmot* be also a word among them for a Munkie. The *Germans*, and especially the *Helvetians*, by a corrupt word drawn from a Mouse of the Mountain, *Murmeltier*, and *Murmentle*, and some *Misbellerle*, by reason of his sharp whining voycelike a little Dogs. In *Latine* it is called also *Empra*, which seemeth to be compounded of *Emdor*, and this is the least kinde of *Alpine Mice*, which is found in all the *German Regions*; of which we will speak in the end of this story. Some take this to be called *Taxus*, amongst whom *Brassavolus* is one; yet it hath no property with the *Alpine Mouse*, except lying in a Cave; for it doth not sleep in the Winter, nor hath no outward resemblance with Mice, neither can have any affinity in disposition or manner of living, and therefore I cannot assent thereto. *Grapaldus* & *Alpinus*, both learned *Italians*, say, that the *Armelins* are called *Alpine Mice*, whereunto they are led, because they sleep all the Winter long, like the *Alpine Mouse*; but we shall shew in their due place, that these belong to the Weefils, and not to the Mice, which living in cold Countries, grow white in the Winter time: the *Hebrew* word is *Saphan*, according to some Authors, and is translated *Arctonim*, but we will shew in due place, that the *Arctomys* is the *Crycet*, or *Grycet Mouse*; and the *Saphan* we have shewed already to be the Cony.

These *Alpine Mice* are in the tops of the *Apennine* hills, and none of the Ancients except *Pliny* make mention thereof, and it is doubtful whether he doth describe it or no. For his words are, *Sunt his Muribus Alpinis pares & in Ægypto, similiterq; residunt in clunibus & binis pedibus gradiuntur, prioribusq; ut manibus utuntur*, that is to say, there are Mice in *Egypt* like to the *Alpine Mice*; for they sit upon their buttocks, and go with their fore-most two feet, which also they use instead of hands, by which we collect, that they are not the same, but like the *Alpine Mice*.

The *Alpine Mouse* is in quantity like a Hare, or at the least betwixt a Hare and a Cony, being more fat, and of a thicker body then a Cat, but shorter legs, in outward appearance most like a Mouse, and therefore it is called an *Alpine Mouse*. The back of it is very broad, and the hair harder and harsher then a Conies. The colour for the most part is yellow, which in some is more clear, and in others more obscure and brown. Their eyes of a reasonable quantity, standing far out of their heads. Their ears very short like cropt ears. The head like a Hares, and their feet with long nails; his fore-teeth like a Squirrels, two above, and two beneath, but long and sharp like a Beavers, in colour yellow; about the nose and upper lips he hath long black bristle hairs like a Cat. The tail is half a cubit long, according to *Stumpsius*, but two palms according to *Agricola*. His legs very short and thick, covered with long deep thick hair, like to the bottom of his belly. The toes of his feet are like a Bears, and his claws long and black, wherewithall he diggeth the earth to make his den; he goeth upon his hinder-feet like a Bear, or like an Ape, by jumps, and with his fore-feet he taketh his meat like a Squirrel and an Ape, sitting in the mean time upon his buttocks. His back is also very fat, although all the other parts of his body be lean, and yet that on his back cannot be said to be fat, but rather like a Cows udder, neither fat nor flesh, and they encrease or grow more in breadth then in length.

Scaliger describeth them in this manner, a *Marmot* (saith he, for so he termeth an *Alpine Mouse* in *French*) is a Beast about the bigness of a Badger, having hair and tail much like it, and after

The quantity of this beast, and the several parts, *Mathæolus*.

The description of the great *Alpine Mouse*.

the same manner short legs, and little or no ears, long, sharp, firm, crooked, strong and black claws, which is numbred amongst the kindes of Mice, with whom it holdeth little correspondence, except that like a Squirrel it taketh his meat in the fore-feet as with hands, and eateth sitting upon his tail. They agree also with the Dor-mouse in their sleep, for they pass over Winter sleeping. Their teeth are like to the teeth of Hares and Mice; after that they are made tame, they are not hurtful to men or children, except they be provoked. Being kept in houses, they will eat and gnaw all linnen and woollen cloth; thus far *Scaliger*. But we have shewed already, that the outward appearance of it is like a Mouse, and that therefore it is safer to follow *Pliny*, *Albertus*, *Mathæolus*, *Stumpsius*, and others, then his sole and singular opinion; they keep as we have said already, in the tops of the Mountains, wherein they make their cave with wonderful art and circumspection, making two different passages into their Den, one above another a poles length, which meet in the middle like a fork, or the conjunction of two Rivers or Path-ways, making the seat of their rest to be very deep in the Mountain, and therein they remain five, seven, nine, or eleven of them together.

The places of their abode, and their singular art in making their cave.

Their observation of watch.

They play many times before the mouth of their Den together, and in their sport or pastime, bark like little Dogs. When they go out of their cave into the Mountains to gather food, or to play, or to fetch in grass; always one of them remaineth like a Watchman near the mouth of the cave upon some high place, looking most diligently and vigilantly, both far and near; and if he see either a man or wilde beast coming towards them, then he suddenly cryeth out; and with his voyce giveth the warning word, whining like the whistling of a pipe, if his fellows be far off; or else barking like a Dog, if they be near at hand. When the residue hear it, they presently repair home, and he which kept the watch, entereth into the Den last of all. And it is reported by a certain *Greek* Writer, that if their speculator do not give them the watch-word, but that they are endangered by any man or beast through his negligence, they tear him in pieces with their teeth. There is no beast so strong as this, considering the quantity; for it hath been seen, that when a lusty young man took one of them by the hinder

Stumpsius.
The strength of this Beast.



leg as it ran into the Den, he could not with all his might pluck it back again. The claws of it are exceeding sharp, and fit to dig; so that it is thought if a man finde them in the earth, and seek to take them by digging unto them, he shall labour in vain, because the Beast diggeth faster from him then he can follow her; they cannot run very fast in the plain ground, but are easily killed by a man, except they get into the earth; with their teeth they bite deep, for they can sheer asunder wood with them like Beavers, they eat or live upon fruits, and especially being tamed when they are young; they refuse not bread, flesh, fish, or pottage, and above all they desire milk, butter, and cheese; for in the *Alpes* they will break into the little Cottages where milk is kept, and are oftentimes taken in the manner sucking up the milk, for they make a noise in sucking of milk like the pig. In the moneth of *May* they are much delighted to eat Hornets, or Horse-flies, also they feed upon wilde Sagapen of the meadow, and seeded Cabages, and while they are wilde in the Mountains, they never drink; the reason is, as I suppose, because in the Summer time they eat moist green herbs, and in all the Winter time they sleep.

Their severall food.

Towards the feast of Saint *Michael* the Archangel, and of *Gallus*, they enter into their Caves; and as *Pliny* saith, they first of all carry provision of Hay, and green Herbs into their Den to rest upon, wherein their wit and understanding is to be admired; for like Beavers one of them falleth on the back, and the residue load his belly with the carriage, and when they have laid upon him sufficient, he girteth it fast by taking his tail in his mouth, and so the residue draw him to the Cave; but I cannot affirm certainly, whether this be a truth or a falsehood. For there is no reason that leadeth the Author thereto; but that some of them have been found bald on the back. But this is certain, when the Snow begins to cover the Mountains, then do they enter into their Dens, and shut up close the passages, with sticks, grass, and earth, both so hard and so thick, that it is easier to break the solid ground, then the mouths of their Caves, and so being safely included both from the fear of the Hunters, from rain, snow, and cold, there they live until the Spring, without all manner of meat and drink, gathered round together like a Hedgehog, sleeping continually; and therefore the people inhabiting the *Alpes* have a common proverb, to express a drowsie and sleepy fellow in the German tongue thus; *Er musse szuzyt geschlafen haben wie ein murmelthier*: in Latine thus; *Necessesse habet certum, dormiendo, tempus consumere, insar muris Alpini*. He must needs sleep a little, like the Mouse of the *Alpes*. They sleep also when they be tamed, but it hath been found by experience, that when a tame one hath been taken a sleep, and laid in a warm barrel upon Hay, the mouth being shut and closed to keep out rain and snow, at the opening thereof it was found dead; and the reason was, because it lacked breath, and therefore this is most wonderful, that in the Mountains, notwithstanding the close stopping of the mouth of their Caves, yet they should not be deprived of refrigeration, that is, fresh air, for expiration, and respiration.

Entrance into their caves.

But this is to be considered, that after they have been long tamed, they sleep not so much as when they are wilde; for I think that their continual eating of raw and green herbs, ingendereth in them so many humors as cannot be dispersed without a long continuing sleep; but afterwards when they are dieted with such meat as is provided for the nourishment of man, they are eased of the cause, and so the effect ceaseth. During the time that they sleep, they grow very fat, and they are not awaked very easily, except with the heat of the Sun or fire, or a Hot-house. Now the manner of their taking while they are wilde, is thus;

Their continual sleep all the Winter time.

Growing fat with sleep.

In the Summer time when they go in and out of their Caves, they are taken with snares set at the mouth thereof; but in the Winter time, when they go not abroad, then also are Inhabitants forced to another devise, for then in the Summer time, they set up certain pillars or perches near the mouth of their Den, whereby they may be directed, when the snow doth cover the Mountains. For the pillars or poles stand up above the snow, although the snow be very deep. Then come the Inhabitants upon round pieces of wood in the midst of the Winter, fastned to their shooe-soles over the deep snow with their pyoners and diggers, and cast away the snow from the den, and so dig up the earth, and not only take the beasts, but carry them away sleeping, and while they dig, they diligently observe the frame and manner of the stopping of the Mouses den. For if it be long and deep, if is a sign of a long and a hard Winter, but if they be shallow and thin, of the contrary: so coming upon them as we have said, they take them and carry them away asleep, finding always an odd number among them; and they diligently observe, that whilest they dig, there be no great noise, or that they bring not their fire too near them. For as *Stumpsius* saith, *Experimenti enim capi non possunt, nam utranq; strenue fodiunt venator, ipsi fodiendo simul & retrocedunt & pedibus quam effoderint, terram rejiciendo fossorem impediunt*. That is to say, If they be once awaked, they can never be taken, for howsoever the Hunter dig never so manfully, yet they together with him, dig inward into the Mountains, and cast the earth backward with their feet to hinder his work.

The taking of these beasts.

Being taken as we have said, they grow very tame, and especially in the presence of their keepers, before whom they will play and sport, and take lice out of their heads with their fore-feet like an Ape. Inasmuch as there is no beast that was ever wilde in this part of the world, that becometh so tame and familiar to man as they; yet do they always live in the hatred of Dogs, and oftentimes bite them deeply, having them at any advantage, especially in the presence of men, where the Dogs dare not resist nor defend themselves. When they are wilde, they are also killed asleep, by putting of a knife into their throat, whereat their fore-feet stir a little, but they die before they can be awaked.

Their taming and conditions in the house.

The

The saving
and use of
their flesh.

Their blood is saved in a vessel, and afterwards the Mouse it self is dressed in hot scalding water like a Pig, and the hair thereof plucked off, and then do they appear bald and white; next to that they bowell them, and take out their intrails: afterwards put in the blood again into their bellies, and so see the them, or else salt them, and hang them up in smoke, and being dressed after they are dried, they are commonly eaten in the *Alpine* Regions with Rapes and Cabbages, and their flesh is very fat, not a fluxible or loose fat like the fat of Lambs, but a solid fat, like the fat of Hogs and Oxen. And the flesh hereof is commended to be profitable for Women with childe; and also for all windiness and gripings in the belly, not only the flesh to be eaten in meat, but also the fat to be anointed upon the belly or navil: And for this cause it is used to procure sleep, and to strengthen decayed and weak sinews: the flesh is always better salted then fresh, because the salt drieth up the overmuch humidity, and also amendeth the gravity and ranckness of the savour: but whether it be salt, or whether fresh, it is always hard to be digested, oppressing the stomach, and heating the body overmuch.

The medicines
of this beast.

The ventricle or maw of the Mouse *Alpine*, is prescribed to be laid upon the belly against the Colic. If the hands of a man be anointed with the fat of this beast, it is said he shall be the better able to endure cold all that day after: Also the same fat being drunk up in warm broth by a woman in travail, are believed to accelerate and hasten her delivery.

Certain Horse-leeches, in the cure of that disease which they call the Worms, which are certain ulcers rising in the body, do mingle this fat with other medicines which are very drying or stiptick. And *Mathæolus* doth prescribe it for the softning and mollifying of contracted nerves and joynts in the body.

The description
of the Em-
ptre or little
Alpine Mouse.

By the discourse aforesaid, it doth appear, that of these *Alpine* Mice there are two kinds, one great like a Badger, and the other in stature of a Hare or Cony: This lesser seemeth to be proper to *Germany*, which there they call *Embdor*, of the *Latine* word *Emptre*, a Mouse of the Mountain.

The story whereof I thought good to express, being short, out of *Stumpsius* and *Agricola*: The males and females say they of this kinde, do gather together wilde corn which groweth among the Rocks in the Summer time against the Winter, and carry the same into the holes of the earth, where their lodging is.

Alberius.

Now the female in this kinde is crafty, and more apt to devour; the male on the other side more thrifty and sparing, wherefore he driveth his female out of the Den in the Winter time, and stoppeth the mouth of his Cave, to forbid her entrance, but she getteth behinde the same, and diggeth a secret hole, whilest the male lyeth at the mouth asleep, she consumeth the whole store behinde him; wherefore in the Spring time she cometh forth very fat and comely, and he very lean. And therefore in my opinion, the makers of emblems may very well describe an unthrifty Wife, that consumeth her Husbands wealth, by the picture of this female, as by the picture of the Ass behinde *Ocnus*, biting asunder the cord that he weaveth, as we have shewed before in the History of the Ass. These beasts give themselves much to sleep, and when they are awake they are never idle, but always carrying into their Den straw, hay, sticks, rags, or pieces of cloth, wherewith they fill their mouth so full, that it may receive no more, and if they meet with any thing which is too big for their mouth, by the help of their feet they draw and rowl it to their own Den.

Whereas they are nourished tame in houses, it is observed, that they are a neat and cleanly kinde of beast, for they never defile their lodgings with their excrements, but seek out some secret corner, wherein they both render urine, and empty their bellies. With their teeth the gnaw wood, and make holes in bords, so large as their bodies may pass through; and while they live, they have a very ranck and strong savour like a Mouse, especially in the Summer time while they are lean, and before they grow fat; for such is the nature of this beast, that in the Summer time they labour and grow lean; but in the Winter time they sleep and grow fat. And thus much for the *Alpine* Mouse.

Of the DORMOUSE.

The names and
reasons there-
of.

THE Dormouse is called in *Latin*, *Glis*; and in *Greek*, *Myoxos*; the reason of the *Latine* name *Glis*, is taken from *gliscere*, which signifieth to grow fat, according to the saying of *Columella*, *Paleis vero quibus fere omnes regiones abundant Asinus gliscit*; that is to say, an Ass groweth fat by eating chaffe which aboundeth in all Countries. This word *Glis*, signifieth not only a beast, but a piece of fat earth, and also a Thistle; whereupon *Sylvesticus* made this verse:

Glis animal, glis terra tenax, glis lappa vocatur.

The *Italians* call it *Lo Galero*, *Lo Gliero*, or *Giero*; the *Spaniards*, *Liron*; the *French* likewise *Liron*, and *Rat*, *Liron*, and *Ungloyer*, and *Vngratuel*; the *Germans*, *Ein greul*; the *Helvetians*, *Ein rell*, or *Rel mus*, or *Gros haselmus*; but our *English*, Dormouse, seemeth to be a compounded word of *Dormiens mus*, that is, a sleeping Mouse. The *Polenians* call him *Scurez*. But concerning his name *Myoxos*, there is some question among the Authors. For *Saint Jerom* writing upon the eleventh chapter of *Leviticus*,

viticus, and the 66. Chapter of Esay, translateth *Akbar* the Hebrew word for a Mouse, *Glirem*, a Dormouse, and he giveth this reason, because all the Countries of the East, meaning *Græcia*, do say, that *Myoxus* is a Dormouse. And this *Myoxus* by *Epiphanius* in his Anchoret is alleadged to prove the resurrection. *Myoxus*, saith he, *Animal semestire moritur, & rursus post tempore suo reviviscit*. The Dormouse at half a year old dyeth, and after her full time reviveth again: And in his Book against Heresies, he speaketh thus to *Origen*; *Tradunt naturæ rerum experti, Myoxum latitare, & fœtus suo simul in eodem loco multos parere; quinque, & amplius: Viperas autem hos venari, & si invenerit totum latibulum ipsa Vipera, quum non posset omnes devorare pro una vice ad sacietatem edit unum aut duos, reliquorum vero oculos expungit, & cibos offert, excaecatosque enutrit, donec voluerit unumquemque eorum devorare. Si vero contigerit, ut aliqui in experti in hos incidant, ipsosque in cibum sumant, venenum sibi ipsis sumunt, eos qui à Vipera veneno sunt enutriti. Sic etiam ô tu Origenes à Græca doctrina mente excaecatus, venenum his qui tibi crediderunt, evomisti, & factus es ipsis in edulium venenatum, ita ut per quæ ipse injuria affectus es, per ea plus injuria afficeris.*

The description of the Dormouse out of *Epiphanius*.



The Philosophers which are cunning in the nature of things do write, that the Dormouse doth lie hid, and bring forth many young ones in the same place where he lyeth, five or more at a time, and the Vipers do hunt these to destroy them: now if the Viper finde their nest, because she cannot eat them all at one time at the first, she filleth her self with one or two, and putteth out the eyes of the residue, and afterwards bringeth them meat and nourisheth them, being blinde, until the time that her stomach serveth her to eat them every one. But if it happen that in the mean time, any man chance to light upon these Viper-nourished-blinde-Dormice, and to kill and eat them, they poyson themselves through the venom which the Viper hath left in them: so fareth it with thee *O Origen*, for thou art blinded with the *Græcians* doctrine, and dost vomit out that poyson into their hearts which do believe thee, that thou art made unto them a venemous meat, whereby thou dost wrong others, as thou hast been wronged thy self.

Py which it is manifest, that *Myoxus* is neither a Toad nor a Frog, but the Dormouse. And the charm which is made for the Asses urine, as we have shewed already in his story, *Gallus bibit, & non meit, Myoxus meit, & non bibit*. The Cock drinketh, and maketh not water, the Dormouse maketh water, and never drinketh. But whether it be true or no that she never drinketh, I dare not affirm: But this is certain, that she drinketh but very seldom; and it ought to be no wonder that she should make water, for tame Conies, as long as they can feed upon green herbs, do render abundance of urine, and yet never drink.

Whether they render urine and drink not.

The *Græcians* also do call this Beast *Elayos*, although that word do likewise signifie a Squirrel. In *Mesia* a Wood of *Italy*, there is never found Dormouse, except at the time of their littering.

They are bigger in quantity then a Squirrel, the colour variable, sometimes black, sometimes grised, sometimes yellow on the back, but alwayes a white belly, having a short hair, and a thinner skin then the Pontique Mouse. They are also to be found in *Helvetia*, about *Clarona*. It is a biting and an angry Beast, and therefore seldom taken alive. The beak or snout is long; the ears short and pricked; the tail short, and not very hairy at the end; the middle of the belly swelleth down betwixt the breast and the loins, which are more narrow and trussed up together, they are always very fat, and for that cause they are called *Lardironi*.

The quantity colour, and several parts.

Buck-mast is very acceptable meat unto them, and doth greatly fatten them, they are much delighted with Walnuts, they climbe trees, and eat Apples, according to some: but *Albertus* saith more truly, that they are more delighted with the juyce then with the Apple. For it hath been of-

Their food.

rentimes found, that under Apple-trees, they have opened much fruit, and taken out of it nothing but the kernels, for such is their wit and policy, that having gathered an Apple, they presently put it in the twist of a tree betwixt boughs, and so by sitting upon the uppermost bough press it asunder. They also grow fat by this means.

Nourishers
and nourishing
of Dormice.

In ancient time they were wont to keep them in coops or tuns, and also in Gardens paled about with board, where there are Beeches or Walnut trees growing, and in some places they have a kinde of earthen pot, wherein they put them with Walnuts, Buckmast, and Chestnuts. And furthermore it must be observed, that they must be placed in rooms convenient for them to breed young ones; their water must be very thin, because they use not to drink much, and they also love dry places.

Titus Pompeius (as Varro saith) did nourish a great many of them enclosed, and so also Herpinus in his Park in Gallia. It is a Beast well said to be *Animal Semiferum*, a creature half wilde, for if you see for them hutches, and nourish them in Warrens together, it is observed, that they never assemble, but such as are bred in those places: And if strangers come among them which are separated from them, either by a Mountain, or by a River, they descry them, and fight with them to death.

Society and
charity in
them.
Pliny.

They nourish their parents in their old age, with singular piety. We have shewed already, how they are destroyed by the Viper, and it is certain, that all Serpents lie in wait for them. Their old age doth end every Winter. They are exceeding sleepey, and therefore Martial saith:

Somniculosi illi porrigit gires.

They grow fat by sleeping, and therefore Ausonius hath an elegant verse;

Dic, cessante cibo, somno quis opimior est? glis.

The means to
take these
Dormice.

Because it draweth the hinder-legs after it like a Hare, it is called *Animal traçile*, for it goeth by jumps and little leaps. In the Winter time they are taken in deep ditches that are made in the Woods, covered over with small sticks, straw, and earth, which the Countrey men devise to take them when they are asleep. At other times they leap from tree to tree like Squirrels, and that they are killed with Arrows as they go from bough to bough, especially in hollow trees: for when the Hunters finde their haunt wherein they lodge, they stop the hole in the absence of the Dormouse, and watch her turn back again: the silly Beast finding her passage closed, is busied hand and foot to open it for entrance, and in the mean season cometh the Hunter behinde her, and killeth her. In Tellina they are taken by this means: The Countrey men going into the fields, carry in their hands burning Torches in the night time, which when the silly Beast perceiveth, with admiration thereof flocketh to the lights, whereunto when they were come, they were so dazled with the brightness that they were stark blinde, and might so be taken with mens hands.

The use of the
flesh of these
Mice.

The use of them, being taken, was to eat their flesh, for in Rhetia at this day they salt it and eat it, because it is sweet and fat like Swines flesh. Ammianns Marcellinus wondereth at the delicacy of his age, because when they were at their Tables, they called for ballances to weigh their fish, and the members of the Dormouse, which was not done (saith he) without any dislike of some present, and things not heretofore used, are now commended daily. Apitius also prescribeth the muscles and flesh inclosed in them, taken out of every member of a Dormouse, beaten with Pepper, Nut-kernels, Parsenips, and Butter, stuffed all together into the belly of a Dormouse, and sewed up with thread, and so baked in an Oven, or sod in a Kettle, to be an excellent and delicate dish. And in Italy at this day, they eat Dormice (saith Calius,) yet there were ancient laws among the Romans, called *Leges censoria*, whereby they were forbidden to eat Dormice, strange birds, Shell-fish, the necks of Beasts, and divers such other things. And thus much shall suffice for the description of the Dormouse.

What is
the use of
the flesh of
these Mice?

Pliny.

Marcellus.

Dormice being taken in meat, do much profit against the Bulimon; The powder of Dormice mixed with Oyl, doth heal those which are scalded with any hot liquor. A live Dormouse doth presently take away all Warts being bound thereupon. Dormice, and Field-mice being burnt, and their dust mingled with Hony, will profit those which desire the clearness of the eyes, if they do take thereof some small quantity every morning. The powder of a Dormouse, or field Mouse rubbed upon the eyes helpeth the aforesaid disease. A Dormouse being stead, roasted and anointed with Oyl and Salt, being given in meat, is an excellent cure for those that are short winded. The same also doth very effectually heal those that spit out filthy matter or corruption. Powder of Dormice or field Mice, or young Worms, being mixed with Oyl doth heal those that have Kibes on their heels, or Chilblains on their hands. The fat of a Dormouse, the fat of a Hen, and the marrow of an Ox melted together, and being hot,

not infused into the Ears, doth very much profit both the pains and deafness thereof.

The fat of Dormice being boiled, as also of field-mice, are delivered to be most profitable for the eschewing of the Palsie. The fat of a Dormouse is also very excellent for those which are troubled with a Palsie, or shaking of the joints. The skins and inward part of a Dormouse being taken forth, and boiled with Hony in a new vessel, and afterwards poured into another vessel, will very effectually heal all diseases which are incident to the ears, being anointed thereupon. The skin of a Dormouse, or a Silkworm being pulled off, and the inward parts thereof being boiled in a new brasen vessel with Hony, from the quantity of twenty seven ounces, even to three, and so kept, that when there is need of a certain bathing vessel, the medicine being made warm and poured into the ears, doth help all pains, deafness, or inflammation of the ears. The fat of a Dormouse is commended to be very medicinable for the aforementioned diseases. The same is profitable for all pains, aches, or griefs in the belly. The urine of a Dormouse is an excellent remedy against the Palsie. And thus much shall suffice concerning the medicinal vertues of the Dormouse.

Sextus.

Pliny.

Marcellus.

Of the Hamster or Cricetus, the first figure taken by Michael Horus.



The second picture taken by John Kentmant, and it is her fashion and protracture to lie thus when she is angry, for so doth her colour appear both on the back and belly.



This Beast is called in Latine, *Cricetus*; and in the German tongue *Hamster*, *Traner*, and The names, *Kornsaerle*, that is, Pigs of the corn. It is a little Beast, not much bigger then a Rat, dwelling in the earth of the roots of corn, she is not drawn against her will out of her Cave at any time, but by pouring hot water or some other liquor. The head of it is of divers colour, the back red, the belly white, and the hair sticketh so fast to the skin, that it is easier to pull the skin from the flesh, then any part of the hair from the skin. It is but a little Beast as we have said, but very apt to bite and fight, and full of courage, and therefore hath received from nature this ornament and defence, that it hath a bony helmet, covering the head and the brain when it standeth up upon the hinder-legs: It resembleth both in colour and proportion a Bear. And for this cause some Writers have interpreted it

The descriptive on.

Of the Arctomys.

to be the Beast called *Arctomys*, thus described by Saint *Jerom*. It is a creature (saith he) abounding in the Regions of *Palestina*, dwelling always in the holes of Rocks and Caves of the earth, not exceeding the quantity of a Hedgehog, and of a compounded fashion, betwixt a Mouse and a Bear.

The voracity of the *Cricetus*.

But we have shewed already, that this is the *Alpine* Mouse, and therefore we will not stand to confute it here. The name *Cricetus* seems to be derived from the *Illyrian* word, which we read in *Gelenius* to be *Skuzeczek*: this Beast, saith he, is common in the Northern parts of the world, and also in other places, in figure and shape it resembleth a Bear, in quantity it never exceedeth a great *Sorex*. It hath a short tail, almost like no tail, it goeth upon two legs, especially when it is moved to wrath. It useth the fore-feet in stead of hands, and if it had as much strength, as it hath courage, it would be as fiercerful as any Bear. For this little Beast is not afraid to leap into the Hunters face, although it can do no great harm either with teeth or nails. It is an argument that it is exceeding hot, because it is so bold and eager. In the uppermost chap it hath long and sharp teeth, growing two by two. It hath large and wide cheeks, which they always fill, both carrying in, and carrying out, they eat with both, whereupon a devouring fellow, such a one as *Stafimus* a servant to *Plautus* was, is called *Cricetus*, a Hamster, because he filleth his mouth well, and is no pinger at his meat.

The making of his den.

The fore-feet are like a Moulds, so short, but not altogether so broad, with them he diggeth the earth, and maketh his holes to his den, but when he diggeth so far as he cannot cast the earth out of the hole with them, then he carryeth it forth in his mouth. His Den within he maketh large, to receive corn, and provision of fruit for his sustentation, whereinto he diggeth many holes, winding and turning every way, that so he may be safe both against Beasts that hunt him, and never be killed in his Den: And also if a man dig the earth, he may finde his lodging with more difficulty. In the harvest time he carryeth in grain of all sorts, and my Author saith, *Neque minus in colligendo industrius, quam in eligendo, conservandoque est astutus, optima enim reponit*. He is no less industrious in the gathering of his provision, then crafty and politick in the choise, and keeping it, for it lays up the best; and lest that it should rot under the earth, it biteth off the fibres and tail of the grain, laying up the residue amongst grass and stubble.

It lies gaping over his gathered grain, even as the covetous man is described in the Satyre sleeping upon his mony bags. It groweth fat with sleep like Dormice, and Conies. The holes into the Cave are very narrow, so that with sliding out and in, they wear their hair. The earth which cometh out of their holes doth not lie on heaps like Mole-hills, but is dispersed abroad, and that is fittest for the multitude of the holes, and all the holes and passages are covered with earth: but that hole which for the most part he goeth out at, is known by a foot path, and hath no hindrance in it, the other places at which she goeth out are more obscure and hid, and she goeth out of them backwards. The male and female do both inhabit in one Cave, and their young ones being brought forth, they leave their old Den and seek them out some new habitation. In the male there is this perfidity, that when they have prepared all their sustenance, and brought it in, he doth shut out the female, and suffereth her not to approach nigh it, who revengeth his perfidiousness by deceit. For going into some adjoining Cave, she doth likewise partake of the fruits which were laid up in store by some other secret hole in the Cave, the male never perceiving it.

So that nature hath wonderfully fore-seen the poverty of all creatures: neither is it otherwise amongst men, for that which they cannot do by equity, they perform by fraud. This also cometh in the speech of the common people, against one that will thrive. The young Country wenches concerning this matter, do chant out a verse not unpleasant, which I am contented to express in Iambicks, consisting of four feet:

*Hamster ipse cum sua
Prudens catuq; conjuge,
Stipat profundum pluribus
Per tempus antrum frugibus,
Possitque solus ut frui,
Lectis acervis hordei
Avarus antro credulam
Extrudit arte conjugem.
Serva, inquit, exiens foras,
Caeli serena & pluvias.
Sed fœminis quis insitam,
Vincant dolis astutiam?*

*Novum parans cuniculum,
Furatur omne triticum.
Egens maritus perfidam
Querit per antra conjugem,
Nec se repellat blandulis
Demulcet inventam finis,
Ille esse jam communia
Servata dum finis bona.
At perfidus multiplices
Opponit intus obices.
Rursus fruuntur mutuis
Antris, cibus, amplexibus.*

His meat and food.

This Beast doth devour all kinde of fruit, and if he be nourished in a house he eateth bread and flesh: he also hunteth the field Mice. When he taketh his meat, he raiseth himself upon his fore-feet: he is also wont with his fore-feet to stroke his head, ears, and mouth, which thing the Squirrel and the Cat do also, and as the Beaver amongst those creatures which live as well by water as by land: but although in his body he seemeth but small, notwithstanding he is by nature apt to fight, and very furious being provoked, with his carriage in his mouth: he beateth away

away with both his feet that which resisteth him, directly invading his enemy: In the spirit and affaulting of his mouth he is wayward and threatening, from whence our Country men were accustomed to say of any one which was angry; he breatheth his wrath out of his mouth like a Hamster: *Du spruest vnie ein Hamster*: neither is he easily affrighted, although he be far unequal unto those in strength with whom he is in combat.

Wherefore some do give it in the place of a Proverb, that our Countrymen do call a man which is madly rash, *Ein tollen Hamster*, as fool-hardy as a Hamster. He flieth from any one that doth sharply resist him, and doth greedily follow after them that flie from him. I my self saw one of these, who by assaulting a Horse gat him by the nose, and would never leave his hold until he was killed with a sword: He is taken by divers means, for he is expelled either by hot water poured into his den, or is choaked within; or being digged up with a mattock or spade he is killed; or by Dogs. He is sometimes pulled out by the Fox, or hurt: or oppressed by some snare, a great weight being put about it: or to conclude, he is taken by Art alive, and that in the night time, when he goeth to seek his prey, for in the day time for the most part he lyeth hid.

Before his usual Cave (as I have said) he is taken by the path which is worn, by a pot which is put into the earth, and afterward made plain about it like other places of the field; there is earth cast into the bottom of the pot to the deepness of two fingers, above every where covering the pot there is placed a stone, which is held up by a piece of wood, to which there is bound below a fragment of bread: In the space between the Cave and the pot there are crumbs of bread scattered, which he following and leaping into the pot, the wood falling, he is taken. Being taken after the manner of other beasts, he toucheth no food. If a broad stone, such an one with which they cover pavements, or of which they make roof tiles, shall be joyned unto the pot, and the beast be taken, he will be very hardly known in the morning; for the spirit of the beast being shut in, and waxing wroth, piercing for thinness doth moisten the stone. The skins of Hamsters are very durable, of which there are certain long coats which come down unto the heels, and divers coloured cloaks made, which the women of *Misena* and *Silesia* do use, and account them very honorable, of a black and red colour, with broad guards or edges of the skins of Otters: the same coats are for the most part valued at the price of fifteen or twenty *Renenian* crowns: for it doth out-wear in length three or four garments made either of linnen or woollen cloath.

In *Turingia* and *Misena* this beast is frequent, notwithstanding not in all places, for in *Turingia* his chieftest abode is about *Esfurdanus*, and *Salcensis* in *Misena*, about *Lipsia*, and the field *Pegensis*, the plentifullest and most fertilest places of both those Regions. In *Lusatia* about *Radeburge*, he is digged out of those places where Painick groweth. At *Mulberge* and *Albia*, he is found in the Vineyards, for he is also fed with ripe Grapes. Our Country men are wont to burn a living Hamster in a pot, being shut, for the medicines of Horses. It hath been seen that one of these hath leaped up and caught a Horse by the nose, never letting go his hold until she was cut off with a sword. The skin is of three or four different colours, besides the spotted sides, and therefore the skin is very pretious. They abound in *Turingia* where the soil is good, and there is also great store of grain.

Of the NORICIAN MOUSE.

THE Norician Mouse is called in *Latine*, *Citellus*, and it keepeth like the wilde Mice in the caves and dens of the earth. The body is like to a domestical Weefils, long and slender, the tail very short, the colour of the hair like to a gray Conies, but more bright. It wanteth ears like a Mole, but it hath open passages in stead of ears, wherewithal it heareth the sound, as you shall see in many birds. The teeth are like the teeth of Mice, and of their skins (although they be not very precious) they use to make garments. In *Germany* they call it *Pile* and *Zisel*, and of this *German* word was the *Latine* *Citellus* feigned; and it appeareth by *Agricola*, that there are two kinds of these; one greater, which are call'd *Zysell* and *Zeiseile*, and another lesser (called *Pile*) which may be the same that is also called *Bilebmuss*, and differeth from other, because it is used for meat. These are bred in *Croatia*, and in the Country about *Venice*. They have a strange smell or savour, which is said to be hurtful to the head: They eat both salted and hung in the smoke, and also fresh and new killed. With their skins they edge the skirts of garments, for it is as soft as the skin of a Hare: and beside the common nature of Mice they are tamed. They also have very large cheeks, whereinto they gather an innumerable quantity of grain, and carry it into their den, as it were in bags against the Winter. They live thirty and forty together in a Cave, and are not driven forth but by infusion of hot water. They gather great store of Nuts into their Caves, and therefore as well as for their flesh do men hunt and seek after them.

Of the MOUSE PONTIQUE.

THE name of this Mouse is given unto it from the Island out of which it was first brought, *Olaus mag.* named *Pontus*, and for this cause it is also called *Venetus*, because it was first of all brought into *Agricola.* *Germany* from *Venice*. It is called also *Varius* by *Idorus*, from whence cometh the *German*

word *Vutreck*, from the diversity of the colour *Grauvuerck*. It is called also *Pundtmust*, as it were *Ponticus mus*, or rather of *Bundt*, because they were wont to be brought in bundles to be sold fifty together, and they were sold for twenty groats, *Volaterranus*, and *Hermolaus* are of this opinion, that the white one in this kinde, be called of the *Italians*, *Armelline*, and the *Germans*, *Hermelin*, but we have promised already to prove that *Hermelin* is a kinde of Weefil, which in the Winter time is white, by reason of extremity of cold, and in the Summer returneth into her colour again, like as do the Hares of the *Alpes*. This *Pontique Mouse* differeth from others only in colour, for the white is mingled with ash colour, or else it is sandy and black, and in *Polonia* at this day they are found red and ash coloured. Their two lowermost teeth before are very long, and when it goeth, it draweth the tail after it like Mice; when it eateth it useth the fore-feet in stead of hands, and feedeth upon Walnuts, Chefnuts, Filbeards, small Nuts, Apples, and such like fruits. In the Winter time they take sleep in stead of meat; And it is to be remembred, that the *Polonians* have four kinds of pretious skins of Mice which they use in their garments, distinguished by four several names. The first of grisel colour, called *Popieliza*. The second is called *Gronostaii*, a very white Beast all over, except the tip of the tail which is all black, and this is the *Hermelin*.



The third is called *Novogrodela*, from the name of a Town, and this is white mingled with grisel, and this is also a kinde of *Pontique Mouse*. The fourth *Uvieuworka*, of a bright Chefnut colour, and this is the Squirrel, for they call Squirrels, Weefils, and Hermelins all by the name of Mice. These *Pontique Mice* have teeth on both sides, and chew the cud. In the Winter time as we have said they lie and sleep, especially the white ones, and their sense of taste doth excel all other, (as *Pliny* writeth) they build their nests and breed like common Squirrels.

Their skins are sold by ten together, the two best are called *Litzschnai*; the third, a little worse, are called *Crasna*, and the fourth next to them *Pocrasna*, and the last and vilest of all *Moloischna*: with these skins they hem and edge garments; and in some places they make Canonical garments of them for Priests, unto which they sew their tails to hang down on the skirts of their garments; of which custom *Hermolaus* writeth very excellently in these words. *Instruxit, & ex muribus, luxuriam suam vita, alios magnis frigoribus, alios medio anni tempore, a septentrionibus petendo, armatus corpora, & debellamus animos.* That is to say; The life of man hath learned to be prodigal, even out of the skins of Mice, for some they use against extremity of cold, and they fetch others out of the farthest Northern parts, for the middle part of the year: Thus do we arm and adorn our bodies, but put down and spoil our mindes.

Beside, there is a flying *Pontique* or *Scythian Mouse*, which we may call the broad Squirrel Mouse, whose skin is here expressed as you may see, and for the description thereof, I have thought good to add an Epistle of *Antonius Schnebergerus* the *Lituanian* of *Vilna* unto *Gesner*, in these words following:

I send unto thee a little skin, the upper place of the hairs thereof being of a white ash colour, but the root of the hair or inner part thereof is a black brown. They call it *Popelycza Lataacza*, that is, a *Pontique* flying Mouse: It is always so moist, that it can never be dressed by the Skinner, or Lether-dresser.

The people use it to wipe sore running eyes, having a perswasion that there is in it a singular vertue for the easing and mitigating of those pains: but I think that the softness was the first cause which brought in the first use thereof, but if the hairs do not cleave hard to the skin, it cannot be done without danger. Also the hairs hanging as it were in a round circle against or above the two former feet, they call wings, wherewithal they



are thought to flie from tree to tree. Thus far *Antonius. Gesner* after the receipt of these skins, being willing to preserve them from moths, because they were raw, for experience sake gave them to a leather dresser, who presently dressed them with Vinegar, and the Lees of Wine, so that it appeareth the Skinners of *Lituania* had not the skill how to dress it.

After they were dressed they were so soft, that they stretched above measure, so that every one of them were square, that is to say, their length and breadth were equal, for they were two palms or eight fingers broad: and no more in length, the head and tail excepted: wherefore it may well be called a square Mouse, or *Sciurus quadratus*, because we are sure of the former, but not of the flying; the tail was as long as four or five fingers are broad, being rough like the tail of other Squirrels, but beset with black and white hairs, the whole colour both of the belly and upper part was whitish, as we have said, but black underneath, the hair is so soft as any silk, and therefore fit for the use of the eyes. The ears shorter and rounder then a Squirrels, the feet did not appear by the skin: the neather part was distinguished from the upper part, by a certain visible line, wherein did hang certain long hairs, which by their roughness and solidity under the thin and broad frame of their body, might much help them to flie, even as broad fishes swim by the breadth of their bodies, rather then by the help of their fins. The *Helvetians* wear these skins in their garments. It is reported by *Ælian*, that the Inhabitants of *Pontus*, by making supplication to their Gods, did avert and turn away the rage of Mice from their Corn-fields, as the *Egyptians* did, as we have said before in the story of the vulgar Mouse.

Of the Mouse called the *Shrew*, or the *Erd shrew*.



The word *Honaka* of the *Hebrews* remembred in the 11. chapter of *Leviticus*, is diversly interpreted by the translators, some call it a reptile beast which always cryeth: some a reptile flying beast; some a Horse-leach, or blond-sucker; some a Hedgehog; and some a Beaver, as we have shewed before in the Hedgehog. But the *Septuagints* translate it *Mygale*; and *S. Jerom*, *Mus araneus*, that is, a Shrew. *Dioscorides* calleth it *Miogale*; the *Germans* and *Helvetians*, call it *Mutzer*; in some parts of *Germany*, from the figure of the snout it is called *Spitzmus*, by some *Zissmus*, from the fiction of his voice; and some *Groß Zissmus*; the *Hollanders* call it *Moll Musse*, because it resembleth a Mole. *Mathæolus* for the *Italians* call it *Toporagno*; that is, a Mole-shrew. The *Helvetians* call it *Bisemus*, that is, a Musk-mouse, because it being dried in a furnace smelleth like Musk. The skin pulled from the flesh, smelleth best by it self, and yet the flesh smelleth well also, and so do the excrements. But to return to the *Greek* name, why it should be call'd *Mygale*, there is not one opinion amongst the learned: but I do most willingly condescend to the opinion of *Actius*, who writeth that it is called *Mygale*, because in quantity it exceedeth not a Mouse, and yet in colour it resembleth a Weevil, and therefore it is compounded of two words, *Mys*, a Mouse, and *Galee*, a Weevil.

Amyntas is of opinion, that it is so called, because it is begot betwixt a Mouse and a Weevil, but this is neither true nor probable. For is it likely that Weevils and Mice will couple together in carnal copulation, whose natures are so contrary, the one living upon the death of another, that is, the Weevil upon the Mouse? And beside the difference of quantity betwixt them, maketh it impossible to have such a generation. The other derivation of *Mygale*, which is made by *Rodolphus* writing upon *Leviticus*, fetching *Mygale* from *Mus gulafut*, that is, a devouring Mouse, it is against the order of all good Linguists, to derive *Greek* words from *Latine*, but rather consonant to learning, to fetch the *Latine* from the *Greek*.

There is no less inquiry about the *Latine* name, why it should be called *Mus araneus*, seeing *Aranea* signifieth a Spider. This Mouse saith *Albertus*, is a red kinde of Mouse having a small tail, a sharp voice, and is full of poyson, or venom: For which cause Cats do kill them, but do not eat them. *Sipontinus* writeth thus, of this Shrew; *Mus araneus, exiguum animal, atq; levissimum est, quod araneæ modo tenuissimum filum, & gladii aciem conscendit*. That is to say, this Shrew-mouse is a little and light creature, which like a Spider climeth up upon any small thread, or upon the edge of a sword: and therefore you see, they derive the *Latine* name from his climbing like a Spider.

But in my opinion it is more reasonable, to derive it from the venom and poyson which it containeth in it like a Spider. For which cause *Silvaticus* writeth thus; *Mugali id est, draco marinus*.

*nus, & animal venenosum, pusillum muri simile: nam & araneum piscem, propter venenum pungentibus insitum spinis, veteres ophim, id est, serpentem nominarunt, & hodie quam vulgo draconem vel draconem. That is to say; There is a fish of the Sea, and a little Beast on the Earth like a Mouse, which by a general word are called *Mugale*, and the Spider-fish called at this day a Dragon, or Dragonist, was in ancient time called a Serpent, because by his prickly fins, he did poyson those which were stricken by him. And concerning the description of this beast, it may be taken from the words of an ancient *English* Physician, called Doctor *William Turner*.*

I have seen (saith he) in *England*, the Shrew-mouse of colour black, having a tail very short, and her snout very long and sharp, and from the venomous biting of this Beast, we have an *English* Proverb or Imprecation, I beshrow thee, when we curse or wish harm unto any man, that is, that some such evil as the biting of this Mouse may come unto him. The *Spaniards* call this Beast *Raton Iquemo*; the *Illyrians*, *Viemed kamys*; and the *Polonians*, *Kerit*. They were wont to abound in *Britany*, as *Hermolaus* writeth.

They are also plentiful in *Italy* beyond the Mountains *Apennine*, but not on this side (as *Pliny* writeth) yet in the hither parts of *Italy* and *Germany*, there are many found, especially in the Country neer *Trent*, in the Valley *Anania*, where this is admirable, that by reason of the coldness of that Country their bitings are not venomous. For the Scorpions there are not venomous, although in other places of *Italy* they poyson deeply. This Beast is much less then a Weevil, and of an ash colour, in most places like a Mouse, although the colour be not always constant.

Samonicus.
Vegetius.

Aetius.

The eyes are so small, and beneath the proportion of her body, that it hath not been unjustly doubted of the Ancients, whether they were blinde or no, but in their best estate their sight is very dull. And for this cause the ancient *Egyptians* did worship it: for as they held opinion, that darkness was before light, so they deemed that the blinde creatures were better then the seeing. And they also believed, that in the wane of the Moon the liver of this beast consumed. It hath a long and sharp snout like a Mole, that so it may be apt to dig. The teeth are very small, but so as they stand double in their mouth, for they have four rows of teeth, two beneath, and two above, which are not only apparent by their dissection or Anatomy, but also by their bitings, for their wounds are Quadruple, wheresoever they fasten their teeth. Their tail is slender and short. But the description of this Beast was better apprehended by *Gesner*, at the sight of one of them, which he relateth on this manner:

The colour (saith he) was partly red, and partly yellow, mingled both together, but the belly white. The hinder-feet seemeth to cleave to the body or loins. It smelleth strongly, and the savour did bewray or signifie some secret poyson. The tail about three fingers long, beset with little short hairs. The residue of the body was three fingers long. The eyes very small and black, not much greater then Moles, so that next to the Mole they may justly be called, the least sighted creature among all four-footed Beasts; so that in old age they are utterly blinde by the Providence of God, abridging their malice, that when their teeth are grown to be most sharp, and they most full of poyson, then they should not see whom nor where to vent it.

They differ as we have said in place and number, from all four-footed Beasts, so that they seem to be compounded and framed of the teeth of Serpents and Mice. The two fore-teeth are very long; and they do not grow single as in vulgar Mice; but have within them two other smal and sharp teeth. And also those two long teeth grow not by themselves, as they do in other Mice, but are conjoyned in the residue, in one continued rank. They are sharp like a saw, having sharp points like needles, such as could not be seen by man, except the tips of them were yellow. Of either side they have eight teeth, whereas the vulgar Mice have but four, beside the two long fore-teeth, which also seem divided into two or three, which except one mark diligently, he would think them to be all one.

Arnoldus.
Ælianus.

It is a ravening Beast, feigning it self gentle and tame, but being touched, it biteth deep, and poysoneth deadly. It beareth a cruel minde, desiring to hurt any thing, neither is there any creature that it loveth, or it loveth him, because it is feared of all. The Cats, as we have said, do hunt it and kill it, but they eat not them, for if they do, they consume away in time. They annoy Vines, and are seldom taken, except in cold; they frequent Ox-dung, and in the Winter time repair to houses, gardens, and stables, where they are taken and killed.

If they fall into a Cart-road, they die and cannot get forth again, as *Marcellus*, *Nicander*, and *Pliny* affirm. And the reason is given by *Philes*, for being in the same, it is so amazed, and trembleth, as if it were in bands. And for this cause some of the Ancients have prescribed the earth of a Cart-road, to be laid to the biting of this Mouse for a remedy thereof. They go very slowly, they are fraudulent, and take their prey by deceit. Many times they gnaw the Oxes hoofs in the stable. They love the rotten flesh of Ravens; and therefore in *France*, when they have killed a Raven, they keep it till it stinketh, and then cast it in the places where the Shrew-mice haunt, whereunto they gather in so great number, that you may kill them with shovels. The *Egyptians* upon the former opinion of holiness, do bury them when they die. And thus much for the description of this Beast. The succeeding discourse toucheth the medicines arising out of this Beast; also the cure of her venomous bitings.

The Medicines of the Shrew.

The Shrew, which falling by chance into a Cart-rod or track, doth die upon the same, being burned, and afterwards beaten or dissolved into dust, and mingled with Goose grease, being rubbed or anointed upon those which are troubled with the swelling in the fundament coming by the cause of some inflammation, doth bring unto them a wonderful and most admirable cure and remedy. The Shrew being slain or killed, hanging so that neither then nor afterwards she may touch the ground, doth help those which are grieved and pained in their bodies, with sores called fellons, or biles, which doth pain them with a great inflammation, so that it be three times invironed or compassed about the party so troubled. The Shrew which dyeth in the furrow of a Cart-wheel, being found and rowled in Potters clay or a linnen cloth, or in Crimson, or Scarlet woollen cloth, and three times marked about the Impostumes, which will suddenly swell in any mans body, will very speedily and effectually help and cure the same.

The tail of a Shrew being cut off and burned, and afterwards beaten into dust, and applyed or anointed upon the sore of any man, which came by the biting of a greedy and ravenous Dog, will in very short space make them both whole and sound, so that the tail be cut from the Shrew when she is alive, not when she is dead, for then it hath neither good operation, nor efficacy in it. The former hoofs of a Horse being scraped, and the same fragments or scantlings thereof being beaten in the dust or earth, which hath been digged up by a Shrew, in four measures of water, poured down the mouth of a Horse which is troubled with any pain or wringing in his bowels, will soon give him both help and remedy. The Shrew being either applyed in drink, or put in the manner and form of a plaister, or hanged upon the sore which he hath bitten, is the most excellentest, and most medicinable cure for the helping and healing thereof. A preservative against poyson, would be an excellent remedy, that neither man nor any other living creature, should be bitten if they should leave or would want that superstition called an enchantment against poyson, being hanged about the neck, whereof we will speak more in the curing of the bites of this Beast.

That the biting of a Shrew is venomous, and of the reason of healing in this kinde.

In Italy the biting of a Shrew is accounted for a very strong poyson, and that except there be some medicine very speedily applyed for the curing and healing thereof, the party so bitten will die. These Shrews are truly so venomous and full of poyson, that being slain or killed by Cats, whose nature is to kill whatsoever Mice they take, they will not offer to touch or eat the least part of them.

But the biting of a female Shrew is most obnoxious and hurtful when she is great with young, but most dangerous of all when she biteth any one which is great with young, either a woman or any other Beast whatsoever, her self being also with young, for then it will hardly be cured.

If a Shrew shall bite any creature while she is great with young, the pusses or biles will in time be broke which they make, and will come unto a very great and malignant wound and sore. If the Shrew do also bite any creature during the time she is with young, she will presently leap off, notwithstanding she biteth more dangerous. There is nothing which do more apparently explain and shew the biting of a Shrew then a certain vehement pain and grief in the creature which is so bitten, as also a pricking over the whole body, with an inflammation or burning heat going round about the place, and a fiery redness therein, in which a black push or like swelling with a watery matter, and filthy corruption doth arise, and all the parts of the body which do joyn unto it seem black and blew with the marvellous great pain, anguish, and grief, which ariseth and proceedeth from the same.

When the push or bile which cometh by the occasion of a Shrew cleaveth, or is broken, there proceedeth and issueth forth a kinde of white flesh, having a certain rinde or skin upon it, and sometime there appeareth in them a certain burning, and sometimes the same is eaten in and falleth out, but in the beginning there is a most filthy green corruption and matter which floweth in the same, afterward it is putrefied, and eaten in, and then the flesh falleth forth: the wringings also of the inward parts, the difficulty of voiding the urine, and a corrupted sweat doth follow and accompany the same.

But Avicenna affirmeth, that in what place soever this Beast shall bite, the sores thereof with great anguish will pant or beat, and that in every hole wherein his venomous teeth have entred, there will a certain fiery redness appear, the skin whereof being broken, there will come a very white and mattery fore, which will breed much pain and trouble in all the parts of the body for the most part. The sores or wounds which are made also by this Beast are very manifestly known by the marks of the fore-teeth standing all in a row together, as also by the blood which issueth from the wound, being at the first pure, clear, and exceeding red, but afterwards corrupt, blackish, and full of putrefaction.

There do also divers bunches arise in the flesh usually after the biting of this Beast, which if any man shall break, he shall see the flesh which lyeth under them corrupted, and divided with certain

Avicenna. certain clefts or rifts in the same. Moreover the nature of this Beast is such, that for the most part he doth covet to bite those whom he can come unto by the stones or genital, not only men, but also all other brute Beasts whatsoever: and thus much shall suffice concerning the biting of this Beast.

Dioscorides. Wormwood being beaten or bruised small, strained in a fine linnen cloth, and mingled in Wine, given to the party, either man or woman, in Wine to drink, who is bitten by a Shrew, will procure him present ease and remedy. The same also is an excellent remedy for the bitings or stings of a Sea-dragon. Vinegar is very medicinable for the bitings of the Shrew, and of Dogs, as also for the fish called by the *Latines*, *Scolopendra*, (which voideth all her bowels out until the hook come forth, wherewith she is taken, and then sucketh them up again) the Scorpion and all other venomous Serpents.

Pliny. But the *Græcian* Physitians affirm, that the same ought to be mingled with other medicines for the helping of the aforesaid diseases, as to take the ashes of the Shrew being burnt, the gum or liquor of the Herb called Fennil-giant, dried Barly beaten into small powder, Mustard-seed pounded small with the Herb called Purple, or Mothmullein, and mingle them all together with Vinegar, and being so applyed they will presently cure the aforesaid stings or bitings.

Avicenna. Garlick being bruised, and the juyce thereof anointed upon the place which was bitten by a Shrew, will presently expel the pain, and wholly cure the sore. For the expelling of the superfluities of the parings of the dead flesh, growing round about the sore, being not cast away but remaining thereon. Take Cummin and cover the wound or biting therewith, then apply Garlick being beaten into Oyl thereunto, and anoint the places about the sore, as also the sore it self very diligently, and in very short space of time it will cause the same to fall away of it own accord.

Aetius. For the healing also of the bites of this Beast: Take Garlick, the leaves of a Fig-tree, and Cummin, mingle them very well all together, till they come to a mollifying or temperate substance; then take the same, and fashion it in the form or manner of a plaister, and it will very speedily and effectually cure the sore.

Dioscorides. The seed or leaves of Coleworts, being beaten together with Vinegar, and the herb call'd *Assa fœtida*, is very good and profitable to be applyed either to the bites of this Beast, or a ravening Dog. The dung of a Dog being taken and anointed upon either Man or Horse which hath been bitten by a Shrew, will be an excellent remedy both for the curing and healing them of the same. The hoof of a Ram being dried, beaten into powder & afterwards mixed with Hony, will be likewise very good for those which are bitten with the same Beast, so that they be first tempered and fashioned in the manner of a plaister, and then applyed thereunto. The little white stalks which proceed from a black Fig, being beaten with the leaves of the herb called Moth-mullein, Wax, and Vinegar, until they come unto a mollifying juyce or salve, will be an excellent remedy against the biting of the Shrew, being anointed thereupon.

Pliny. The young or tender stalks of a wilde Fig-tree, be they never so few or small, being first steeped in Wine, then lapped in a leaf of the same Tree, and so applyed unto the stings and bites of Scorpions, and the Shrew, will in very short time cure and heal the same. Provided always that the wound be well and diligently bathed or washed, before any thing be put or applyed thereunto.

Dioscorides, *Avicenna*, and *Aëtianus*, do affirm, that the excellentest, and medicinablest cure for the bites of a Shrew is this: To take the Spleen of the same Beast, and beat it together with Vinegar, and the Gum called *Galbanum*, then to anoint it or rub it upon the sore, and it will presently expel away all pain, and in some short space altogether heal it. If the red bunches or ulcers which do usually grow about the bites of a Shrew, do fortune to break; take very sharp and strong brine or pickle, and rub it both about, and within the sore, and afterwards apply Barly being burned and beaten into small dust or powder thereunto, which medicine although it seem somewhat grievous and painful, yet it is very good and profitable for the expelling either of the stings of Scorpions, or the bites of the Shrew or ravenous Dog.

Aetius. The genital of a Hare being beaten into powder mingled with Vinegar, and anointed upon the bites of a Shrew, doth speedily cure them. Wilde Mallows being mingled with those Mallows that grow in the Garden, have in them a very effectual force and power to cure all stings or venomous bitings, especially of Scorpions, Shrews, Wasps, and such like stinging creatures.

The Shrew being cut and applyed in the manner of a plaister, doth effectually cure her own bites. The Shrew being killed and anointed all over with Oyl, and dirt or mire, applyed unto the Ulcers or red swellings which come by her venomous teeth, will very speedily procure them to break. The Shrew being cut or beaten into small pieces, dried into powder, mixed with Vinegar, and fashioned in the form of a plaister, will very speedily and effectually cure the bites of a Shrew, whether she be great with young or not, so that they be well applyed thereunto.

But there are some which do think it nothing convenient to mingle the Shrew with any other thing whatsoever, but that it is only after this manner to be applyed by it self, as to take it burned or dry it, and then to pound it in powder, and so to sprinkle it in the wound or sore, which in very short time will easily heal it. The Shrew falling into the furrow of a Cart wheel doth presently die: the dust thereof in the passage by which she went, being taken and sprinkled into the wounds which were made by her poysonsome teeth, is a very excellent and present remedy for the

Ælianus.

the curing of the same. *Mattheolus* alleadgeth out of *Nicander*, that the dirt which cleaveth unto the wheels of a Chariot being scraped off and sprinkled into the bites of a Shrew, will be very medicinable for the healing of them, which thing he himself thinketh a meer fable, and not to be believed. If the pimples or bladders which arise in the bites of a Shrew shall be thought convenient to be broken, for the performing of the same, take the skin of a baked or roasted Pomgranate, and spread it upon the aforesaid red pimples, as hot as possible may be suffered for some small time, and it will cause the ulcers to break, and all the corruption to issue forth.

If it grow unto an Impostume, take the little berries or pellets which are within the Pomgranate, being very well baked, and apply them unto the sore some short time, and they will very easily cure the same. Mustard-seed being mingled with Vinegar, anointed upon the bites of a Shrew, doth very effectually heal them. A Moul being bruised into small pieces, and applyed unto the bites of a Shrew in the form of a plaister, is a very excellent remedy for the curing of them. Pitch and Trifoly being baked, and rubbed very hot upon the bites of a Shrew, is accounted a very medicinable cure: but it is requisite that this fomentation be given unto none but such as are of a strong and powerful body, and are also able to endure pain. The liquor of the Herb called Southernwood being given in Wine to drink doth very much profit those which are troubled, and pained in their limbs with the bites of Shrews. Wormwood being used in the like manner, will cure those which are bitten by a Shrew.

The genital of a Lamb or Kid being mingled with four drams of the Herb called *Aristolochia*, or Hart-wort, and six drams of the sweetest Myrrh, is very good and medicinable for curing of those which are bitten or stung with Shrews, Scorpions, and such like venomous Beasts. The leaves of Coleworts being dried, mingled with flower, and tempered together, until they come into the form of a plaister, will very much help against the venomous bites of the Shrew. The seeds of Coleworts, and the leaves of the same herb being mingled with Vinegar, and the herb called *Asa fatida* beat or pounded together, do very well and speedily cure the bites of the Shrews, as also of a ravenous Dog, if the same in due time be applyed thereunto. The liquor also of the leaves of Coleworts being given in any kinde of drink, is good and wholesome for the curing of the aforesaid bites or wounds. The Nuts of a young Cypress tree being mixed with a certain syrup or potion made of Hony, Water, and Vinegar, and afterwards drunk, doth very speedily procure ease and help for those which are bitten by a Shrew.

The root of a white or black Thistle, being beaten or bruised and given in drink, doth very effectually help or cure those which are bitten by a Shrew. The like vertue hath the herb called Rocket in it, and also the seed thereof being given in any kinde of drink. The gum or liquor which proceedeth from a kinde of Ferula, being given in Wine to drink, doth very much help and cure those which are bitten by a Shrew. The same vertue also in it hath the root of the herb called Gentian or Bitterwort, being given in Wine to drink. One or two drams of the youngest or tendrest leaves of the Laurel tree, being beaten small and given in Wine to drink, doth speedily cure the sores or wounds which are bitten by a Shrew: the same being also used in the said manner, and given in some certain portion unto Horses to drink, doth quickly help and heal them. But there are some which before all other medicines do commend this for the best, and chiefest, that is, to take the juyce which proceedeth from the leaves of the Lawrel tree, and the leaves themselves, being moist and new growing, and to boil them in Wine, and being once cooled, to give it to any which is bitten by a Shrew, and this will in very short space altogether help them. A young Weevil being given in Wine to drink, is accounted very medicinable for those which are bitten by a Shrew, or stung by a Scorpion or any other venomous creature. The herb called Balsamint or Costmary, the herb called Bartram, or wilde Pellito, the herb called Betony, the herb called Water-mint, or Water-creffes; the sweet and delicious gum called Storax, as also the herb called Vervin, being each of them severally by themselves, either given in Wine to drink, or applyed in the manner of a plaister or anointed upon the bites or wounds which come by the venomous teeth of a Shrew, will very effectually cure the pain thereof. The biting of a field Mouse or Shrew, is very troublesome or grievous to all labouring Beasts; for instantly after her bitings there do little red Pimples arise, and there is most danger of death in those Beasts which she biteth when she is great with young; for the aforesaid pimples will then presently break, after which the Beast so bitten will instantly die. The Shrew doth also kill some labouring Beasts with poyson, as chiefly Horses and Males, but especially and for the most part Mares, which are great with young. There are some which do affirm, that if Horses, or any other labouring creature do feed in that pasture or grafs in which a Shrew shall put forth her venome or poyson in, they will presently die. In what place soever a Shrew shall bite in any creature, it will be compassed with an exceeding hard swelling, the Beast also being so bitten, doth expresse his grief or sorrow with much pain, and straining his body doth likewise swell all over, his eyes do in a manner weep, the swelling in his body doth squeeze out matter, or filthy putrefaction, he voideth poyson out of his belly, and doth vomit all sustenance up as soon as ever he receiveth it. If an Ass being great with young be bitten by this Beast, it is a very great chance if she scape death.

But if the Shrew do bite any Beast when she is great with young, it is known by these signes, or marks, there will certain red pimples compass the sore round about, and also spread themselves over all the body of the bitten Beast, and will in short space destroy him, except there be procured

Actius.

Avicenna.

Aegineta.

Dioscorides.

Ruellius.

Dioscorides.

Aegineta.

Actius.

Avicenna.

Pliny.

Aegineta.

Avicenna.

Albertus.

Abyssinus.

Hierocles.

Vegetius.

some present remedy. The Normans in France, do suppose the Shrew to be a Beast so full of venom, and poyson, that if he shall but pass over either an Ox, or a Horse lying down along upon the ground, it will bring such a dangerous disease upon them, that the Beast over which she shall pass, shall be lame about the loins, or shall seem as if he were immoveable, and that he can be cured by no other means but by the same Shrew, who either of his own accord, or by compulsion must pass over the contrary side of the Beast, and that then he will be cured; which thing I do hold to be very vain and not to be believed.

Hippocrates.

For the curing of Beasts which are bitten by a Shrew, thou shalt boil the seed of Parsly together with Wine and Oyl, and thou shalt cut the place which swelleth with a Pen-knife, by which the poyson may issue forth, and the wound being pointingly pulled or torn may wax raw: if by these the inflammation do wax more fervent and hot, thou shalt eat the sore with Iron instruments burning with fire, taking away some part of that which is whole and sound: then shalt thou renew the wound with the Iron instruments being governed rightly, by which the corruption may issue forth: but if that part do chance to swell by the excruciation, thou shalt sprinkle Barley being burned and dried therein; but before you do this, it is meet to joyn the old fat.

Hierocles.

There is also another excellent medicine for the curing of the Shrew, which *Startonicus* himself doth much commend, which is this: To lance or scarifie the wound as soon as it is bitten, but especially if it be compassed with an inflammation, afterwards to sprinkle Salt and Vinegar upon it, then to encourage or provoke the Beast the next day following by some sweet water or liquor to run or go some little journey, first having anointed the sore with Fullers-earth, being beaten small and mixed with Vinegar, and then daily to nourish or bathe it with water which cometh from bathes where some have washed themselves, and this in very short time being so used, will very well and altogether cure the Beast. Against the biting of a Shrew Garlick is accounted for an excellent remedy being mingled with Nitre; but if there shall be no Nitre to be had, mix it with Salt and Cumin, then to dry and beat them altogether into powder, and with the same to rub the places which are infected with the biting: but if the venomous wounds do chance to break; then to take Barly being scorched or burned, and pound it into small powder, and steep it in Vinegar, and afterwards to sprinkle it into the wound: This medicine *Pelagon* affirmeth, will only heal the bites of a Shrew, and that the grief of the sore, by the use of any other medicines doth rather encrease, then decrease.

Vegetius.

The flowre which is made of red Wheat, the herb called Dill, the liquor or Rozen which runneth out of the great Cedar, and two pound of the best Wine, being mingled all together, given in a potion, and poured down the throat of any labouring Beast which is bitten by a Shrew, will presently ease and cure him of his pain.

Hippocrates.

There is also another potion for the curing of the bites of this Beast; which is this: To take cloves of Garlick being bruised small, Salt, Cumin, and Wine, of each the like quantity; these being given to any Beast to drink, doth presently cure him; as also any man being anointed upon the wound, but not given to drink. The herb called Nard or Pepper-wort, being beaten to the quantity of two ounces and a half, and mingled with some sweet smelling Wine, will presently help any Beast which is bitten by the Shrew, being poured through his Nose, and his sore being at that instant time anointed with Dogs dung: the same is also very medicinable or wholesome for men which are troubled with the said biting.

Pliny.

The bites of a Shrew being pricked with an Aul, and anointed with dust which is found in the furrows of Carts under the marks or signes of the Wheel, being mingled with sharp Vinegar, doth presently assuage the pain, and heal the sore. The earth of the track of a Cart also mingled with stale or urine, being applyed unto the bites of a Shrew, will very speedily cure them either upon Men or Beasts. A Shrew being new killed and rubbed over with Salt, applyed unto the wounds which she shall bite in any Beasts, will instantly cure them: This vertue also hath the gall of a Rere-mouse or Bat, being mixed with Vinegar.

There is a very good remedy against the bitings of Shrews, or to preserve Cattle from them, which is this; to compass the hole wherein she lyeth round about, and get her out alive, and keep her so till she dye, and wax stiffe, then hang her about the neck of the Beast which you would preserve, and there will not any Shrew come near them; and this is accounted to be most certain. And thus much shall suffice concerning the bitings of the Shrews, and of the cures thereof.

Of Wilde FIELD-MICE.

The Epithets
of wilde Mice
describing
their kindes.

THIS wilde Mouse called by the Latines, *Mus agrestis*, *Mus Sylvestris*, *Sylvaticus*, *Subterraneus*, and some say *Nitedula*, (although I rather take that word to signifie a Glare-worm.) It is called also *Exiguus Mus*, and *Rusticus*. The *Gracians* call it *Myss Arourayos*; the *Germans*, Field-mouse, and Erd-mouse, that is, a Mouse of the Earth, and *Nuelmus*, *Nualmus*, *Schormus*, *Schoermowss*, *Stoffmus*, and *Luckmus*, by reason of her digging in the earth like a Mole. The *French* call it *Mullott*. There is of these Mice two kindes, a greater and a lesser. The picture of the greater we have described here, forbearing the lesser, because in all parts it resembleth this, except in the quantity.

This

This greater kinde is not much lesfer then a Rat, having a long broad tail like it. The ears of it are round; the head round and great; and the snout or chaps do not stand out long. They are of two colours in both kindes, some red and some black. They have a beard betwixt their mouth and their eyes; and the lesser Mice have a short tail. A Physitian taking occasion of the writings of *Bassianus Landus*, to dissect one of these Mice, found it to be true which he saith, that their maw and guts lie all straight and upright. We have shewed already, that all kinde of Mice are generated out of the earth, although also they suffer copulation. And in *Egypt* it is very common about *Thebais*, and the places where *Nilus* overfloweth, that in the decrease and falling away of the Waters, the Sun engendereth many Mice upon the slime of the earth; so that it is ordinary to see at one time their fore-parts to have life, flesh, and motion, and the hinder-parts deformed, and nothing but earth.

Their severall parts.

Whether Mice engendered of the earth, can procreate other.

Ælianus.

Pliny.



And about this matter there is some disputation among the Authors, for there be Philosophers which affirm, that every creature as well perfect as unperfect, may be made both by seed and of putrified matter; and from hence came the opinion in the Poets, of the sons and daughters of the earth; and so they say, that things grow by generation in *infinitum*: Some say, that perfect creatures cannot be generated in that manner, but the imperfect ones, such as Mice are, may be ingendered by feed and putrified matter, and afterwards beget more of his one kinde.

But *Aristotle* confesseth the first generation, and denyeth the second, and saith; although they do generate by copulation, yet it is not *Idem sed animal specie diversum, à quo nihil amplius gigni possit*; And therefore *Jeronimus Gabucinus* endeth this controversie, saying; *Mures ex putredine nati, generant quidem & ipsi, sed quod ex eis generatur, nec Mus est, nec sœmina, nec amplius generat*: that is; Mice engendered of putrified matter do also engender, but that which is begotten of them is neither male nor female, neither can it engender any more, that it may not proceed in *infinitum*, like a Mouse engendered by copulation. But concerning the beginning of these wilde Field-mice, and their encrease, *Aristotle* speaketh in this manner: We have received (saith he) the wonderful generation of wilde Field-mice, abounding in every place, and especially in corn-fields, which by their multitude, do instantly eat up and devour a great deal of grain, insomuch as it hath been seen, that divers poor Husbandmen, which have determined to day, to reap their corn on the morrow, in the mean season it was so destroyed by Mice, that when the Reapers came in the morning, they have found no corn at all.

The damage done by wilde Field-mice.

And as the encrease of these Mice was extraordinary, so also was the destruction, for men could not drive them away, as in former times, by smoking them, or else by turning in Swine to root out their nests from the earth, or by sending Foxes, or wilde Cats among them, but their multitude did always prevail; and yet after a few days, the showers of the clouds destroyed them. And *Pliny* saith, that this ought to be no marvail, that there should be so great a harvest and store of these Mice, seeing that men yet never knew how to hinder their generation, or to kill them, being engendered, and yet for all that they are seldom found in the Winter time either alive or dead. And seeing that we have entred into the mention of the damage of these wilde Field-mice, it is profitable to set down some stories out of Authors, recording the place and persons, whom they have very much annoyed.

Pliny writeth, as we have shewed in our former discourse, that the Inhabitants of *Trous*, were driven from their habitation by these Field-mice; because they devoured all their fruits, and when they dyed, there was a worm engendered in their heads. *Diodorus Siculus* in his fourth Book of ancient Monuments recordeth, that there were certain people of *Italy*, which by incursion of Field-

Field-mice were driven to flight, and to forsake their patrimonies, for they destroyed the roots of the corn, like some horrible drought, or some unresistible cold frost. *Cossa* a Town of *Umbria*, in the days of *Pliny*, which at this day is called *Orbitellus*, was destroyed by Field-mice, (as *Volaterranus* writeth.) *Niphus* also saith, that he saw in one night, all the Corn-fields at *Calenum* destroyed by the Mice.

Strabo.

There are such a number of these Mice in *Spain*, that many times their destruction caused pestilent diseases, and this thing hapned amongst the *Romans* when they were in *Cantabria*, for they were constrained to hire men by stipends to kill the Mice, and those which did kill them, scarce escaped with life. The Inhabitants of *Gyarus*, an Island of the *Cyclades*, after they had long resisted the violence of these Mice, yet at length they were fain to yeeld unto them, and forsake their Territory; and the Mice after their departure, through hunger did gnaw the Iron. We have shewed already how the *Philistines* were punished with Mice, before they sent away the Ark of the Lord, and how the *Aeolians* and *Trojans* were annoyed with them, until they had sacrificed to *Apollo Smintheus*, and how the Mice of *Heraclea*, at the time of Grape-gathering, do go out of the Countrey and return again in the Autumn. When *Senacharib*, King of the *Arabians* and *Egyptians*, invaded *Egypt*, it is said by *Herodotus*, that *Vulcan* in the night time sent upon his Army such an innumerable swarm of wilde Mice, that before morning they had eaten afunder their Quivers, Arrows, Bows, and all warlike instruments, so that the next day, for the want of weapons, and fear of their enemies, they were constrained to take their heels and run away. And to conclude, by the same means the *Chalcidians* were driven out of *Elymnium*, a City of the Mountain *Athos*; and thus much shall suffice for the harm of these Mice. They make their dwellings and habitation in the earth, according to this saying of *Virgil*:

Places of
their abode.

—Sæpe exiguus mus
Sub terra posuitq; domos, atq; borrea fecit.

Yet now and then they come out of the earth, although it be but seldom. They heave up hills like Moles, and they eat and devour the roots of corn and herbs. They make not very deep holes, but dig under the turfs, and upper face of the earth, so that when a man walketh upon it, he may perceive it by the sinking in of his foot-steps: if the hole be opened with a Spade, they close it again as a Mole doth, but not so speedily, for they defer it two or three days together; and therefore if it be watched, they may kill her at her return by treading upon her; concerning the manner of taking them, these observations following may be put in practise.

Driving away
of these Mice.

Pliny.

Palladius.

These kinde of Mice are driven or chased away with the ashes of a Weefil, or of a Cat mingled with water, and by sprinkling or scattering seed or corn abroad, or by some things well sodden in water: but the poysoning of those Mice is in the scent or savour of bread: and therefore they think it more profitable to touch the seed or corn lightly with the gall of an Ox. *Apuleius* doth affirm, that to soke the grain or corn in the gall of an Ox before you sprinkle it abroad, is very good against these Field-mice: also (as it is read in *Geopon Græc.*) it doth very much commend the gall of Oxen, where-with as he saith, if the seed or corn be touched, they shall be freed from the molestation or trouble of these Field-mice.

Notwithstanding in the Dog-days Hemlock-seed with the herb Hellebore is better, or with wilde Cowcumber, or with Hen-bane, or being beaten with bitter Almonds, and Bears-foot, and to mingle with them just as much meal or corn, and beat and stamp them in Oyl, and when you have so done, put it into the hollow places of these Field-mice: and they will die as soon as ever they shall tast of it. *Avicen* doth affirm also, that Hen-bane-seed doth kill these kinde of Mice, without the mixture of any other thing. Very many do stop the passages of them with the leaves of *Rhododaphne*, who do perish in the time they are labouring to make their passage, by the gnawing of them.

Apuleius also saith, that the people of *Bithynia* have had much experience of these things, who stopped the passages of these Mice with these *Rhododaphne* leaves, so that they desire to come forth by touching the same often with their teeth: which truly so soon as they shall touch or come unto, they shall presently die. But they use a kinde of incantation which is this that followeth; I do adjure all ye Mice, which do remain or abide here, that ye do not offer me wrong, or suffer me to be wronged of any other. For I do assign and appoint you this field (then he nameth the field) in which if I should surprize you hereafter, I call *Luna* to witness, I will tear every one of you into seven pieces: When as thou hast writ this charm, binde paper fast to the place wherein the Mice haunt, and that before the rising of the Sun: so that the characters or marks may appear on the outside cleaving to a natural stone of that place. I have written this (saith the Author) lest any thing should seem to be overskipped: neither do I allow or prove such things can be done, but I rather counsel all men that they do not set their minde to any of these, which are more worthy of derision then imitation. If thou shalt fill the passages of these rustical or Field-mice with the ashes of an Oak, he shall be possessed with a fervent desire to it, often touching it, and so shall die.

Marcellus.
The medicines
of Field-mice.
Soboliasies.

These Countrey Mice, that is to say, those Mice which are found in the fields, being bruised and burned to ashes, and mingled with fresh Hony, doth comfort or restore the sight of the eyes by diminishing the darkness or dimness thereof, in what field soever you shall finde any thing, dig them up by the roots with a little stake or post.

Of the *WOOD-MOUSE*.

Pliny doth oftentimes make mention of this Wood-mouse, or rather a Mouse belonging to the Wood, but he doth it only in medicines; but that it doth differ from this Countrey or Field-mouse, we have shewen in the chapter going before, because it doth not inhabit or dwell in the Countreys or tilled places, as the Countrey or Field-mice do, but doth inhabit in Woods and Forrests. The Wood-mouse is called in *Greek* as the Countrey-mouse: but I think it to be a kinde of Dormouse, which proceedeth from the kinde of Wood-mouse. *Pliny* truly doth make the same remedy or medicines of a Dormouse, as he doth of a Wood-mouse, as I will a little after rehearse or recite unto you. Also I should have thought that a Sorex had been the same, because it is a Wood-mouse, but that, that one place of *Pliny* did hinder me, where he commendeth the ashes of a Wood-mouse to be very good for the clearness of the eyes, and by and by after did shew or declare that the ashes of the Sorex were good also in the same use, as I will recite or rehearse below in the medicines or remedies of the Wood-mouse. *Agricola*, a man of great learning, doth interpret or judge the Wood-mouse to be that Mouse, to the which they do appoint the name derived from *Avellana*: but he doth account that to be the Sorex, which I will shew or declare beneath to be the Shrew. I do understand that there are properly two kinds of the Wood-mouse spoken of before. The one of them that which *Albertus* doth write, saying that there is a certain kinde of Mouse which doth build or make her habitation in trees, and of a brown or swart colour, and having also black spots in her face, which only is called by the universal name of a Wood-mouse. Of the same kinde *Pliny* doth mean, (if I be not deceived) when he writeth, that the mast of a Beech-tree is very acceptable to Mice, and therefore they have good success with their young ones. The other which is peculiarly named the Sorex, which (saith *Pliny*) doth sleep all the Winter time, and hath a tail full of hair: whose shape or form we propose and set evidently before you. But that I may more distinctly handle those things which *Pliny* hath shewed to us concerning the Wood-mouse; I will write her down separately, or by it self, and afterwards concerning the Mouse which hath her name derived from Fil-birds, which the *Germans* have left in writing, and which I my self have considered or observed; and last of all I will write concerning the Sorex peculiarly and severally from the Ancient Writers.

The ashes of a Wood-mouse being mingled with Hony, doth cure all fractures of bones, the brains also spread upon a little piece of cloth, and covered with wooll is good also; but you must now and then spread it over the wound, and it doth almost make it whole and strong within the space of three or four days: neither must you mingle the ashes of the Wood-mouse with Hony too late: Hony also being mingled with the ashes of Earth-worms, doth draw forth broken bones. Also the fat of these Beasts, being put to Kibes is very good; but if the Ulcers are corrupt and rotten, by adding Wax to the former things doth bring them to cicatrifying. The Oyl of a burned Locust is also very good; and also the Oyl of a Wood-mouse with Hony, is as effectual as the other. They say also that the heads and tails of Mice mixed with the the ashes of them, and anointed with Hony, doth restore the clearness of the sight, but more effectually being mingled with the ashes of a Dormouse or a Wood-mouse.

The description.

The medicines of the Wood-mouse: *Pliny*.*Marcellus*.Of the *Nut-mouse*, *Hasel-mouse*, or *Filbird-mouse*.

THis Beast is a kinde of Sorex, and may be that which the *Germans* tearm *Ein gross Haselmus*, a great Hasel-mouse, so called because they feed upon Hasel-nuts, and Filbirds. The *Flemings* call it *Ein Slaperat*, that is, a sleeping Rat; and therefore the *French* call it by the name *Leror*, where by also we have shewed already, they understand a Dormouse.

For this sleepeth like that, and yet the flesh thereof is not good to be eaten. The colour of this Mouse is red like the Hesel, and the quantity full as great as a Squirrel, or as a great Rat: upon the back and sides it is more like a Mouse, and upon the head more red. His ears very great, and pilled without hair. The belly white, so also are his legs. The neathermost of his tail towards the tip white. His nostrils and feet reddish. The tail wholly rough, but most at the end with white hairs.

The eyes very great hanging out of his head, and all black, so that there is not in them any appearance of white. The beard partly white, and partly black, both above and beneath his ears, and about his eyes, and the upper part of his tail next his body all black. Upon his forefeet he hath four claws or distinct toes, for he wanteth a thumb. But upon his hinder-feet he hath five, I mean upon each severally. The outside of his hinder-legs, from the bending to the tip of his nails is altogether bald without hair. And the savour of all this kinde is like the smell of the vulgar Mice. They live not only in the earth, but also in trees which they climbe like Squirrels, and therefore make provision of nuts and meat against the Winter, which they lodge in the earth.

The Countreymen finding in the Summer their caves and dens, do wisely forbear to destroy them, knowing that they will bring into them the best Nuts and Fil-birds can be gotten, and therefore at one side they stick up a certain long rod, by direction whereof in the Winter time they come and dig out the den, justly taking from them both their life and store, because they have unjustly gathered it together: Some have eaten it, but they were deceived, taking it for the Dormouse.

Of the *LASCITT MOUSE*.

This Mouse is called by the *Germans*, *Lascitts*, and also *Hatnebal*, because of the similitude it holdeth with the *Ermeline Weefil*. The skin of it is very pretious, being shorter then the *Ermeline* two fingers breadth. And forasmuch as else, there is no difference between the *Lascitt Mouse*, and the *Lascitt Weefil*, except in the quantity: My opinion is, that they are all one, and differ only in age.

And I am rather led to affirm thus much, because there are skins annually brought to the *Mart of Franckford*, out of *Polonia* (cal'd *Lascett*) which are no other then the *Weefils* of *Novogrodela*, whose white skins are intermixed with griffeld; And thus much shall suffice to have said of this Mouse.

Of the *SOREX*.

I Am of opinion, that this kinde of Mouse belongeth to the *Hesel Mouse* before spoken of, because it is wilde, hath a hairy tail, and sleepeth in the Winter, all which things are by *Pliny* ascribed to the *Sorex*; only this hindereth, that he maketh the *Sorex* to have rough hairy ears, and the *Sorex* of *Germany* hath bald ears. For answer whereof this shall suffice, that the other three notes being so great and pregnant, there is no cause why the want of one, and that so little as the hairs on the ears, should deprive it of his naturall due and kinde. The *Italians* and the *French* use this word *Sorex*, for a domestical vulgar Mouse, and so peradventure did the *Antients* before them; but it is greater then the domestical Mouse, although *Plinies Sorex* be neither greater nor lesser. The *Spaniards* call a *Sorex*, *Sorace*, or *Raton Pequeno*. The *Illyrians*, *Viemegka Mys*, by which word also they understand a Shrew-mouse. The fibres of the intrails of the *Sorex* do encrease and decrease with the Moon, so that the number of them, do always answer the number of the days of her age.

Her ears as we have said are full of hairs, but in the lowest part or tip thereof. The reason of her name is taken from the skreeching voice she maketh in gnawing. For it is a very harmful biting Beast, cutting asunder with her teeth like a saw. Some do derive the *Greek* word from *Huras*, which anciently did signifie a Mouse, and therefore they call this *Syrax*, and *Saurex*, but I list not to stand any longer upon the name, seeing the Beast it self affordeth little worthy matter to entreat of.

It is reported by *Varro*, that in *Arcadia* there was a Hog so fat, that a *Sorex* did eat into her flesh, and made her nest and brought forth young ones therein, which may very well be; for such is the nature of a fat Swine, that he will hardly rise to eat his meat, or ease himself of his excrements: And besides, fatness stoppeth sense, burying both the Nerves and Arteries very deep: so that in the body of a man, his fattest part is least sensible. *Lycinius* the Emperor going about to restrain the insolency of the Eunuches and Courtiers, called them *Tineas*, *Soricesq;* *palatinos*, that is moths and *Sorices* of the Court.

There was an ancient garment (as *Pliny* writeth) called *Vestis Soriculata*, and this was very pretious in my opinion, because it was garded or fringed with the skins of the *Sorex*. If this Beast fall into any Wine or Oyl, she corrupteth the same, and it is to be recovered by the same means, as we have formerly described in the vulgar Mouse. It should seem there was great store

Of the name
and kinde.

Alumnus.

Egnatius.

of them in the days of *Heliogabalus*, for he commanded (as *Lampridius* writeth) to be brought unto him, not only a thousand of these Beasts, but also a thousand Weefils, and ten thousand vulgar Mice, as we have shewed before in the story of the vulgar Mouse.

When the Sooth-sayers were about their divinations, *Pliny* writeth, that if they heard the squeaking of the *Sorex*, they brake off, and gave over their labour, holding it unprofitable to go any further therein: and it is also reported, that the voyce of this Mouse gave occasion to *Fabius Maximus*, to give over his Dictatorship, and unto *Caius Flaminius*, to give over the Mastership of the Horsemen, such fear of silly Beasts, was begotten in the mindes of gallant and magnanimous spirits, by the unprofitable and foolish behaviour and doctrines of the Magitians.

It is said by *Nigidius*, that these *Sorices* do sleep all the Winter and hide themselves like the Dormouse. They also when they eat any corn, do screech and make a greater noise then other Mice, whereby they bewray themselves in the dark unto their enemies, and are killed, which was the occasion of that proverbial speech of *Parmeno* in Terence, *Egomel meo indicio miser, quasi Sorex perii*. Saint *Austine*, and Saint *Origen*, do also make use of this proverb, the one in his Book of Order, the other in a Homily upon Genesis, which caused *Erasmus* to write in this manner, *Sed videbor ipse meus indicio captus*, that is, I have overthrown my self with my own tale. These *Sorices* do make hollow the trees wherein Emets or Ants breed, and there is perpetual hatred betwixt the Bittors, and these, one lying in wait to destroy the others young.

The Medicines of the Sorex.

Serenus and *Pliny* say, that if a woman with childe do eat the sinews of a *Sorex*, if her eyes be black, so shall the Infants be likewise;

*Si pragnans artus captivi Soricis edit,
Dicuntur fœtus nigrantia lumina fingi.*

The fat of these Beasts or of Dormice, is very profitable against the Palsie. The powder of the heads and tails anointed with Hony upon the eyes, restoreth the clearness of sight, and with Hony At tick, the powder and fat of a *Sorex* burned, helpeth running eyes; and the same powder mingled with Oyl, cureth bunches in the flesh.

There is another Mouse called by *Matheolus*, *Mus Napelli*, that is, a Wolf-bane-mouse: so called, because it feedeth upon the roots of that Herb; although there be some of opinion, that it is not a creature, but another little Herb growing near unto it for a counter-poyson.

And *Marcellus* also maketh mention of *Napellus*, and *Antinapellus*, whereunto I should easily condescend, but that the eyesight of *Matheolus* leadeth me to the contrary. For he writeth that he took one of them in the top of a high Mountain in Italy. And *Sylvaticus* calleth this Mouse *Mus Suring*, or *Sucfinus*, and calleth it a Counter-poyson to Wolf-bane, and that God might shew thus much unto men, he causeth it to live upon the roots, in testimony of his natural vertue destroying poyson and venomous herbs.

Of the Mouse
called *Mus
Napelli*.

The Indian Mouse, and divers other kindes of Mice, according to their Countries.

I Do finde that divers times Mice do take their names from Regions wherein they inhabite, which happeneth two manner of ways: one, because the form of their bodies will somewhat vary: the other, because not only in shape, but also in wit they have some things in them common to Mice, over and above the Mice of our Countries; therefore we will briefly comprehend all their surnames of whatsoever regions they are in one order or Alphabet. In the Oriental parts of the world, there are great Mice, (as *Alexander* writeth) of the quantity of Foxes who do harm both men and Beasts, and although they cannot by their biting kill any man, yet do they much grieve and molest them.

Mice of the
East.

Americus Vespucius writeth, that he found in an Island of the Sea being distant from *Ulisbona* a thousand leagues, very great Mice. The hair of the Egyptian Mice is very hard, and for the most part like a Hedge-hogs: and there are also some which walk bolt upright upon two feet, for they have the hinder-legs longer, and their fore-legs shorter, their procreation is also manifold; and they do likewise sit upon their buttocks, and they use their fore-feet as hands. But *Herodotus* affirmeth these Mice to be of *Africk*, and not of *Egypt*; amongst the *African* or *Carthaginian* pastures (saith he) in *Africk* towards the Orient, there are three kindes of Mice, of the which some are called *Bipedal* or two-footed, some in the *Carthaginian* language *Zetzeries*, which is as much in our language as hills, some Hedge-hogs.

Egyptian Mice.

There are more kindes of Mice in the *Cyrenaican* region: some which have broad fore-heads, some sharp, some which have pricking hair in the manner of Hedge-hogs. It is reported that in *Cyrene* there are divers kindes of Mice both in colour and shape, and that some of them have as broad a countenance as a Cat; some have sharp bristles, and bear the form and countenance of a Viper, which the Inhabitants call *Echenete*, but improperly, as it appeareth by the words of *Aristotle* in his book of Wonders.

Cyrenean Mice.
Pliny.

Herodotus also affirmeth the like of those Mice, to be in shape and colour like Vipers: but *Pliny* and *Aristotle* do both disallow it, and say that in those juice there is nothing common to Vipers, but only to Hedge hogs, as concerning their sharp bristles.



There are also some Mice in *Egypt*, which do violently rush upon pastures and corn: of which things *Ælianus* speaketh, saying in this manner; When it beginneth first to rain in *Egypt*, the Mice are wont to be born in very small bubbles, which wandering far and near through all the fields, do affect the corn with great calamity, by gnawing and cutting asunder with their teeth the blades thereof, and wasting the heaps of that which is made in bundles, do bring great pains and business unto the *Egyptians*: by which it comes to pass, that they endure all manner of ways to make snares for them, by setting of Mice-traps, and to repel them from their inclosures, and by ditches, and burning fires to drive them quite away: but the Mice as they will not come unto the traps, for as much as they are apt to leap, they both go over the hedges, and leap over the ditches. But the *Egyptians* being frustrated of all hope by their labours, all subtil inventions and policies, being left as it were of no efficacy, they betake themselves humbly to pray to their Gods to remove that calamity from them. Whereat the Mice by some fear of a divine anger, even as it were in battel array of observing a squadron order, do depart into a certain Mountain: The least of all these in age do stand in the first order, but the greatest and eldest do lead the last troupes, compelling those which are weary to follow them.

A wonder in
the *Egyptian*
Mice.

Ælianus.

But if in their journey the least or youngest do chance through travail to wax weary, all those which follow (as the manner is in Wars) do likewise stand still, and when the first begin to go forward, the rest do continually follow them. It is also reported, that the Mice which inhabit the Sea, do observe the same order and custom.

Medicine by
African Mice.

The *African* Mice do usually die as soon as ever they take any drink: but this is commonly proper unto all Mice, (as *Ephesus* affirmeth) where it is written above concerning the poisoning of Mice. Mice, (but especially those of *Africa*) having their skins pulled off, boiled with Oyl and Salt, and then taken in meat, doth very effectually cure those which are troubled with any pains or diseases in the lungs or lights. The same doth also easily help those which are molested with corrupt and bloody spittings with retchings.

Pliny.

The *Arabian*
Mice,

The kindes of *African* Mice are divers; some are two footed; some have hair like unto Hedge-hogs; some faces of the breadth of a Weevil: but some call these Mice *Cirenacian*; some *Egyptian*, as I have before declared. In *Arabia* there are certain Mice much bigger then Dormice, whose former legs are of the quantity of a hand breadth, and the hinder of the quantity of the joyn to the end of the finger: I do understand them to be so short, that nothing thereof may seem to appear without the body, except the space of the joints of the finger, as it is in Martinets.

The *Armenian*
Mice.

It is said, that the garments of the *Armenians* are usually woven with Mice which are bred in the same Countrey, or diversly docked with the shape of the same creature. The Author writeth, that *Pliny* maketh mention of the *Armenian* Mouse, but I have read no such thing: therefore he doth perchance take the *Armenian* Mouse for the Shrew. In *Cappadocia* there is a kinde of Mouse which some call a Squirrel. *Ælianus* writing of the *Caspian* Mice; *Amyntas* (saith he) in his Book entituled *De Mansionibus*, which he doth so inscribe, saith that in *Caspia*, there do come an infinite multitude of Mice; which without any fear do swim the floods, which have great and violent currents, and holding one another by their tails in their mouths, (as it is likewise reported of Wolves) have a sure and stable passage over the water.

Of the *Caspian*
Mouse.

But when they pass over any tillage of the earth they fell the corn, and climbing up into trees, do eat the fruit thereof, and break the boughs: which when the *Caspians* cannot resist, they do by this means endeavour to restrain their turbulent incursions; for they remove all things which may hurt birds having crooked talons, who come presently so flying in such great flocks, or companies, that may seem to be clouds to expel the Mice from their borders, and by a proper gift incident unto them by nature, do drive away hunger from the *Caspians*. Neither in quantity are these Mice inferiour to the Egyptian *Ichneumons*: they are also ungentle, and they do no less devour with the strength of their teeth, then the Mice of *Teredon* in *Babylon* do Iron, whose soft skins the Merchants carry to the *Persians*. The *Indian* Mouse, or *Pharaohs* Mouse (as some learned later Writers do write) is no other then the *Ichneumon*. *Antonius musa Brasavolus*, took the before expressed figure of an *Indian* Mouse, (for so he did call it) which before that time was shewn by *Bellonius*, and I guessed it to be an *Ichneumon*; and truly in the snout (if you take away the beard) and in the ears it doth agree, but in the tail it doth differ, which doth rather resemble a Cat; and in many other things, which by conferring them are easie to be marked, and as I conceived it, I have set it down.

Of the Moschatte, or Musk-cat.



This Beasts name is derived from the *Hebrew* word *Bosem*, which signifieth sweet odour, for the *Germans* call the same *Bisem*, and the Beast it self *Bisembier*. And the *Gracians* derive their *Moschos* of *Moo* and *ozo*, to seek, and to smell, and of *Mesou Cheisthai*, to proceed out of their middle; because the true liquor cometh out of the navel, as we shall shew: but I rather think they derive it from the *Arabian* words *Mesch*, and *Misch*, and *Almisch*. The *Italians*, *French*, and *Spaniards* use *Musci* and *Muschi*, which is derived from the later *Latines*; and beside the *Italians* call it *Capriolo del Musco*; and the *French*, *Cheureul du musch*: the Musk it self is called in *Italy*, *Muschio*; of the *Latine*, *Muschum*, and *Muscatum*: the *Illyrians*, *Pizmo*; and the

Germans, *Bisem*. The *Arabians* were the first that wrote any discovery of this Beast, and therefore it ought not to seeme strange, that all the *Gracians* and *Latines* derive the name from them. And although there be an unreconcilable difference amongst Writers about this matter, yet is it certain that they come neereft unto the truth, that make it a kinde of *Roe*: for the figure, colour, stature, and horns, seem to admit no other similitude, except the teeth which are like a *Dogs*, whereof two are like a *Boars* teeth, very white and straight. And there be some (as *Simeon Sethi*, and *Aetius*) which say he hath also one horn, but herein is a manifest error, because no man that

ever saw one of these Beasts doth so much as make mention thereof; and therefore the original of this error came from the words of *Avicen*, who writeth that his teeth bend inward like two horns. *Cardan* writeth, that he saw one of these dead at *Millain*, which in greatness, fashion, and hair resembled a *Roe*, except that the hair was more thick, and the colour more gray. Now the variety of the hair may arise from the Region wherein it was bred. It hath two teeth above, and two beneath, not differing absolutely from a *Roe* in any thing, except in the savour. It is called *Gazella*, they are lesser, thinner, and more elegant creatures then the *Roes* are. *Paulus Venetus* writeth thus of this Beast. The creature out of whom the Musk is gathered, is about the bigness of a Cat, (he should say a *Roe*) having gross thick hair like a *Hart*, and hoofs upon his feet. It

is found in the province of *Cathay*, and the Kingdom of *Cergoth*, which is subject to the great King of *Tartars*.

Brassavolus.

Tame Musk-cats.

Their strength, nimbleness, and quickness.
Alex. Benedicus.

Of the Musk, and the use thereof.

The place where the Musk groweth.

The natural expression of Musk.

Likewise there was a most odoriferous Musk-cat at *Venice*, which a Merchant there had to be seen, brought as he said out of *Cathay*, and for proof whereof he shewed the way that he went, namely through the *Euxine Sea*, *Colobis*, *Iberia*, and *Albania*, even to the entrance of *Scythia*. For the Countrey *Cathay* is a part of *Scythia*, beyond *Imaus*, neither ought this to seem wonderful, for in that place there was a Region, called by *Ptolemeus*, *Randa marcostra*, wherein he placeth the eleventh Table of *Asia*. This Region is watered by the River *Sotus*, and therein aboundeth Spikenard, and the Inhabitants call the Countrey wherein the best Musk-cats are bred, *Ergimul*, and the greatest City of that Countrey *Singuy*. The same Author writeth also, that Musk-cats are brought out of *Egypt*, and out of many places of *Africk*. In *Thebeth* also there are many Cities, and Beasts about those Cities called *Gadery*, which do bring forth the Musk; and the Inhabitants hunt them with Dogs. The Province of *Canicluet*, doth also yeeld many of these Beasts, and likewise *Syria*. *S. Jerom* also writeth thus: *Musculus & Oenanthe, & peregrini muris pellicula*, by which skin of the strange Mouse, he meaneth the little bag, or skin wherein the Musk of the Musk-cat is included. The Princes of *Europe* do nourish these tame, being brought out of the New-found World, and many other rich men especially in *Italy*, be delighted with the odoriferous savour which cometh from it. *Brassavolus* saith, that he saw a Merchant offer one of these to be sold unto *Alphonfus* Duke of *Ferrara*, which had the Navel full of Musk. And *Catherinus Zenus*, an ancient Nobleman of *Venice*, had a Roe of this kinde, which he left after his death unto his heirs; and by this it doth plainly appear, that the Musk-cat is neither like a Cat, nor a Mouse, and that all those which have affirmed so much thereof, have been deceived of their own conjectural derivation of *Mosculus* or *Musculus*, or by the error of some Writer of the ancient Books, which instead of *Magnitudo Capreoli* a Roe, have inserted *Catti*, a Cat. And thus much shall suffice for the description of this Beast, and for the Regions where it is bred, except I may adde the Relation of *Ludovicus Romanus*, who affirmeth, that the Musk-cats of *Calecut* are brought out of the Countrey *Pegus*. These Roes of the New-foundland are wonderful nimble and quick, and so swift, that they are seldom taken alive; but after they are taken, by pulling out their longer teeth they wax tame. When they are prosecuted with the Hunters, and with Dogs, they defend themselves with their teeth. In some places they take them in snares, and in ditches, also kill them with darts; and so having killed them, they cut off the little bag wherein the Musk groweth, for that Musk doth exceed in sweetness of odor all things that were ever made by the art of man, and therefore the use of it is more plentiful then of any other thing, for they carry it about in Garments.

They make perfume of it; they anoint Beads whereupon they tell their prayers; they also make Bals of it, and include it in Gold or Silver, carrying it about, either to be seen, or because they are delicate and wanton; or to shew their riches and abundance; or to preserve themselves from putrified and stinking airs; or else against cold and moist diseases of the brain. With this the luxurious women perfume themselves, to entrap the love of their Wooers: for as the thing it self is a vice or sickness of the Beast; so also by men it is used to vice and wickedness; yet the *Venetian* Matrons will never use it, and he that beareth it about him shall never perceive it himself.

We have shewed already, that it groweth in the navel, or in a little bag neer unto it; and it is true by *Gyraldus* and *Varinus*, that when the Beast beginneth to be luxurious, and prone to the rage of venery and carnal copulation, then the blood floweth to the navel, and there putteth the Beast to pain, because it swelleth above measure. The Beast then abstaineth from all meat and drink, and rowleth himself upon the ground, and so by the waight of his body presseth forth the humor that troubled him, which after a certain time doth coagulate and congeal together, and then rendereth such an acceptable savour, as you see it hath. The relation whereof you shall hear out of the words of *Serapion*. The wilde Roes (saith he) which wander to and fro in the Mountains freely, without the government of man, have in a little bag, certain putrified matter or blood, which of it self groweth to be ripe, whereunto when it is come, the Beast itcheth, and is pained as it were with launcing, therefore he rubbeth himself upon stones, rocks, and trees, a great while together, for it delighteth him, whereby the stones grow white through his rubbing, and therefore in time he weareth the bag asunder, making issue unto it for the corruptible matter to come forth, which presently runneth out upon the sores, no otherwise then if it had been lanced. Then the wound groweth to be whole again, and the Beast departeth, until the like exsuperance of blood come into the same place again. For every year this happeneth them.

The Inhabitants of the Countrey know all the Hunters of these wilde Beasts, and therefore note them where they empty their bellies. For the humor so pressed out as before is declared, through the heat of the Sun congealeth and dryeth upon the stone, growing more commendable and pleasant through the Suns heat; Then come the Inhabitants, and in little bottles made of the skins of these Beasts, which before they have killed, and so put the musk into them.

This they sell for a great price, because it is thought, (and that worthily) to be a gift fit for a King. But if this Musk be taken out of the creature by violence, then will he bring forth no more; yet express it by his own natural art he beareth again and again. The greatest cause of this humor is the sweetness of his food, and the air wherein they are bred; therefore if one of them be brought into this part of the world, with Musk in his cod, it will grow to ripeness in a tempe-
rate

rate air, but if it be brought without Musk in the cod, then it will never yeeld any among us: and besides that it liveth but a little while. And therefore my opinion is, that this excremental humour, is unto it like a menstruous purgation, for the want whereof it dyeth speedily. Every part of this Beast is called Musk, which cometh forth of his ulcerous issue; for although the other parts smell sweet, yet we will shew afterwards more at large, that it is not of themselves, but by reason of this humor.

The pretiousness of this thing deserveth a further treatise, for thy better direction and instruction of the knowledge hereof, both for the choise of that which is best, and for the avoiding and putting away of that which is adulterate. At *Venice* at this day it is sold in the cods, and the *Indian* Musk is better then the *African*. The brown is always better then the black, except it be of *Catha*; for that of *Catha* is black, and best of all. There is some that is yellowish, or betwixt red and yellow, after the very same colour of Spikenard; this also is of the best sort, because the Beasts that render it do feed upon Spikenard.

Therefore this is good to be chosen, because it cannot be adulterated, and besides the tast of it is bitter, and as soon as ever it is tasted, it presently ascendeth to the brain, where it remaineth very fragrant without resistance, and is not easily dissolved. It is not bright within, but muddy, having broad grains, and equal throughout, like the wood of Baulm. But according to the Regions, they chuse Musk in this sort.

Of the *Indian* Musk, that of the Region of *Sceni*, (called *Antebeum*.) they set in the first place, and next unto it, the Beasts of the Sea side; The Musk of *Cubit* is known by the thin bladder of the Beast wherein it is contained; but that of *Gergeri*, is less Aromaticall, and more thick. The Musk of *Carum* is in the middle place betwixt both, wherewithal they mingle powder of Gold and Silver, to increase the waight. The musk of *Salmyndy* is worst of all, because it is taken out of his bladder or cod, and put into a glass. There are some which prefer the *Tumbascine* Musk, and they say, that the odor thereof cometh from the sweet herbs whereupon the Beast feedeth, and the like is said of the Region of *Sceni*; but the odor is not equal to the other. And the *Tumbascines* do not gather the Musk after the fashions of others: for they draw not forth this matter out of the cod, nor yet gather it in calm weather. The *Cenians*, they press forth the matter out of the ventricle, and when they have it forth, mingle it with other things, and that in cloudy and tempestuous weather: afterwards they put them up in glasses, and stop the mouth close, and so they send it to be sold unto the *Sarizines*, and to *Amanus*, and to *Parfis*, and to *Habarac*, as if he were a *Tumbescine*. When this Beast goeth furthest from the Sea, and feedeth toward the Desert upon Spikenard, then is his Musk sweeter, but when they feed neer the Sea, it is not so fragrant, because they feed upon Myrrh. *Avicenna* saith, there is some kinde of Musk like a Citron, but such hath not been seen in this part of the world; for our Musk is most commonly like the colour of Iron, and the savour of it like a *Cyrenian* Apple, but stronger; and consisteth of little pieces, but it is better that hangeth together, and hath a savour of the Wilderness; but if it be adulterated with Snakes or Birds-dung, then will it be lesser pleasant in the savour, and also pinch and offend the nose.

The Hunters of *Tebeth*, and *Seni*, as we have shewed already, do kill their sweet Rose, and afterwards take out from them their bladder of Musk, which Musk being excerpted before it be ripe, smelleth strongly and unpleasantly. And then they hang it up a little while in the open and free air, wherein it ripeneth as it were by concoction in the Sun, and thereby receiveth an admirable sweetness. And the like do divers Gardners use towards Apples, and fruits of trees which are gathered before they be ripe. For by laying them up in a dry place, they wear away their sharpness and become pleasant. But it is to be remembred, that Musk is the best which doth ripen in its own cod, before it be taken out of the Beast, for before it is ripe, it smelleth displeasantly.

There is not much perfect Musk brought into this part of the World, but the strength of it cometh from the vertue of the cod wherein it is put, and so it is brought to us; but the best is brought out of the East, where groweth Spikenard and sweet herbs. *Rodericus Lusitanus* saith, that our Musk is compounded of divers things, the ground whereof is the bloud of a little Beast like a Cony, which is brought out of *Pegun* a Province of *India*. But the means whereby to try it may be this, after it is waighed, they put it into some moist or wet powder, and after a little while they weigh it the second time, and if it exceed the former waight, then do they take it for sound, perfect, and good, but if it do not exceed, then do they judge it adulterate.

Some Merchants when they are to buy Musk stop it to their noses, and holding their breath run half a stones cast, afterwards they pull it from their nose, and if they perceive the savour of the Musk, then do they buy it, and take it for good, but if not, they refuse it for corrupted. In some Churches they make perfumes with Musk, and by mingling *Stirax*, *Aloes*, *Amber*, and juyce of *Roses*, they make a perfume called *Regium Suffumigium*, the Kings perfume; likewise unto sweet waters, drawn out of the furnaces of Chymists, whereunto they add simple *Rose Water*, and for the richer sort of people Musk and Camphory.

Andreas Furnerius, in his *French* Book of adorning mans nature, teacheth a composition to be made of certain Oyls, Sope, and Musk; and also Ointments and musked Oyls. He also sheweth how to make little round Balls of Musk, and other confections, and afterwards to draw a thread through the middle of them, and so wear them about ones neck.

Some put it into Silken wool, through which they first draw a thread, and so dissolve it in *Rose water*, afterward make it up in medicines, and use it as aforesaid. It may be preserved in a vessel of Lead,

The best musk declared by these several Countries.

Sylvius.

Avicenna.

Elluchacem.

Serap.

The tryal of Musk.

Simion & Sylvius.

Platearius.

The preserving of Musk.

Lead, close stopped a long time, for the lead which is cold and moist, agreeth well with the nature of the Musk, and therefore if a leaden vessel be wanting, so as ye be forced to use glass and silver, then must you put two or three pieces of lead into it, for the better preservation, and covering the passage all over with Wax, and above all things you must avoid all kinde of Spices, taking heed that no grain thereof come into it. If while it is in the vessel it lose the savour and be dead, then it is to be recovered by opening the mouth of the Vial, and hanging it over a privy; for when the stink and evill savour cometh unto it, *Contra sorem elucatur*, & *quasi lucando reviviscit*, it striveth against the filthy stink, and as it were reviveth in that contention, saith *Isidorus*, *Albertus*, and *Platearius*.

Benedictus.
The adulterating of Musk, and the means to descry it.

But concerning the adulterating of Musk, I will say more in this place. First of all, the Mountebanks do corrupt it by mingling with it the liver of a Calf. Also by a root called *Makir*, and an herb *Salich*. Many times the dung of Mice is sold for Musk, and so great is the deceit herein, that a man may not trust the outward shape of an intire cod, for there be Imposters which can counterfeit them, and make them in all parts for the outward appearance, and fill them with certain stufte, interposing some little true Musk among it until it have a reasonable savour, and therewithal deceive simple people.

It is also adulterated by mingling with it a little Goats blood fried, or brown Bread fried, so that three or four parts of these, will receive seasonable tast from one part of the Musk. It is also adulterated in the skin by putting pieces of the skin into it, and it may be known from the true Musk, because it will weigh twice so heavy. The *Sarazens* use this shift above all others, and there is one principal way of making counterfeit Musk, which is this; they take Nutmegs, Mace, Cinamon, Cloves, Gilly-flowers, and Spikenard, of every one a handful, all these being beat diligently together, and dried and sifted, they are mingled with the warm blood of a Dove, and afterwards dried in the Sun, then are they seven times sprinkled over, or moistened with the water of Musk-roses, and betwixt every sprinkling they are dried; at length they mingle therewithall a third or fourth part of true Musk, and then sprinkle it over again with Musk-rose-water, so divide it into three or four lumps, and take the white hairs from under the tail of a Roe or Kid, and so put it in a vessel of glass.

Benyvine, white Wax taken out of a new Hive of Bees, the rotten part of Eve-tree, and a little Musk, are mingled all together to make a counterfeit Amber, for it will smell like Civet, or Musk, or else *Stirax*, and the powder of *Lignum aloes*, with Civet, and Rose-water; but the fraud in one and other is easily deprehended, for both the odor and the colour are different from the true Amber, and also it will sooner wax soft in water, then that which is natural.

Some do corrupt their Musk with the seed of Angelica, or rather with the root of it, because the root smelleth sweet like Musk, but the cosenage may be easily discovered, by putting it into water: for the Angelica will sink, and the Musk will swim. The true Musk is sold for forty shillings an ounce at the least. It is also observed by *Arnoldus Villanovanus*, that in the presence of *Asa fetida* or *Castoreum*, the best Musk will have a horrible and intolerable savour, although they touch not one another, which cannot be ascribed to any known reason, but to some secret in nature. The sweetness of the Arabian Musk is described by *Alciatus* in this verse;

Et celebris suavi est unguine Muscus Arabs.

Herbs resembling Musk.

There be divers herbs which smell sweet like Musk, as Angelica, Doris, Musk-gilliflowers, Musk-grapes, the leaves of a Winter Cherry, and an herb growing near *Basil* without a name, like wilde Parsley, the Damasine-rose, and many other. Wilde Cats and Martins do also render an excrement much like Musk; and there are Hares called *Moschie*, which leave such an intolerable smell in the impression of their foot-steps, that the Dogs by touching them grow mad, as we have shewed in the story of the Hare: And thus much for the description of this Beast; now followeth the medicines.

The Medicines of the Musk-cat.

A very little part or quantity of a Musk-cat is of great vertue and efficacy; wherefore it is very sparingly used in medicines or potions, neither is there any part thereof beaten or bruised, as it is of all other Beasts, but it is melted and dissolved in water which proceedeth from the sweetest Roses. It is also a Beast which is very hot and dry, but rather more dry then hot, yet notwithstanding the same his heat is asswaged and allayed by no other thing but only the Gum called Camphire; and his driness is only moistned or mollified with Oyls, and very sweet, as Oyl of Violets, and Oyl of Roses. Amongst sweet smells and savours, the principallest and chiefeft laud and commendation is attributed unto the smell which proceedeth from the Musk-cat: For he doth not only with his odoriferous and delightful savour please and content the scent of men, but also doth strengthen the spirits, and all the parts of mans body, yea and that in a moment, for the slenderness of his parts, which although it doth forthwith penetrate or enter into the scent of man, yet doth it endure longer, and is not so speedily or quickly dissolved as the scent or savour of any other sweet smell whatsoever.

A Musk-

A Musk-cat and the herb called Mercuries-fingers or Dogs-bane, being given in purging medicines to drink, do greatly renew and refresh the decayed strength or force of those which have been before times weakened with divers and continual medicines in their members. The same is also very profitable for those which are effeminate or defective, and eclipsed in their minde or courage, as also for those which are weak and feeble in their joynts, not by any hurt, or any other casualty being enfeebled, but being always so even from their childhood. A Musk-cat is an excellent remedy for those which are troubled with fear in their heart; and also for those which do quiver or shake either for fear of any other thing throughout all the parts of their body. The same is a very profitable and medicinable cure for those which are grieved with any ach or pain in their head, or with any enormity or trouble in their liver, and is also being given simply by it self, without any thing mixed in it, or compounded in Wine, very good and wholesome for the healing and curing of those who have any pain or grief in their stomach, which cometh by the occasion of any cold.

Symeon.

Isidorus.

A Musk-cat being put unto the body of any man in the form or manner of a plaister, doth confirm and make strong both his heart and all the rest of his bowels, or interior parts: it doth moreover encrease both strength and power in all his members, yea and in the very bones, the efficacy thereof is of such and power and vertue. The same being laid or anointed upon the head, is very effectual for the expelling or driving away of the rheume which falleth from the head into the nostrils, and by that means procureth heaviness in the same; and for the amending and curing of the swimming dizziness or giddiness in the head through the abundant humors which remain and stay therein, and also for the bridling and restraining of lust and venery.

Dioscorides.

The same being used in the aforesaid manner doth temperate and confirm the brains of any man, besides it easeth and helpeth those which have pain about their heart, by the which they suppose their very heart to ake. The smell of this Beast is both profitable and hurtful; for unto those which are cold of constitution, the scent is very pleasant in regard that it is hot of it self, and is very delightful in their savours: but unto those which are hot of nature it is very noisome, in regard that the heat and strong scent thereof overcometh their senses, and oftentimes causeth their heads to ake, and be full of pain; and doth also stir up in them that pestiferous disease called the Falling-sickness: but unto women which are of a hot and fiery constitution it is more hurtful and noisome, for it breedeth in them a very pestiferous disease, which choaketh their Matrice or Womb, and causeth them oftentimes to swoond, it is also called by some the Mother. The sneezings of a Musk-cat is an excellent remedy against the resolution of the sinews or the Palsie. A Musk-cat is very good and wholesome for the helping and curing of those which are troubled with any deafness or astonishment in any part of their bodies; as also for the driving away of melancholick and sorrowful passions out of mens mindes, and for the incitating delightful mirth and pleasure in them.

Avicenna.

Rasis.

Brassavolus.

A Musk-cat being mingled with dry plaisters which are used for the healing of the eyes, is an excellent remedy for the expelling and driving away of the white skin which doth usually cover the sight, and for the drying up of moist rheumes and humors, which in the night time do fall from the brains and the head, and by that means doth much hurt and damage the sight of the eyes, as also for the clarifying and healing up of any pain or disease therein.

Platearius.

A Musk-cat is an excellent remedy for those which have a desire to vomit and cannot, it doth also renew an appetite or stomach in those unto their victuals which do loath and abstain from all sustenance, and doth loosen and dissolve all thick puffings or windiness in the interior parts or members of any one.

A Musk-cat being mingled with a caustick medicine, is very profitable and wholesome for the bringing forth of those Womens menses or fluxes which are stopped, and also for moving conception in those women which are hindered in it by the occasion of some great cold.

A medicine or suppository being made of Ambergreese, and mingled with a gum comming out of Syria called *Styrax*, and then mixed both together with a Musk-cat and so beaten, until they come unto a certain salve, and laid unto the secret parts of a woman, is very good for the aforesaid disease. There is a certain juyce or moistness in a Musk-cat which being pressed forth or dissolved, and mixed with the Oyl called Palma Christi, and anointed upon the yard of any man, doth stir him up to lust and venery. If the least part of a Musk-cat be eaten by any one which is troubled with a stinking breath, it will presently expel and take away the stink thereof. And thus much shall suffice concerning the cures and medicines of the Musk-cat.

Avicenna.

Of the MULE.

THE Mule is a Beast, called by the Hebrews, *Pered*, from whence comes the feminine *Pirdah* 3. of King. 1. and there be some that say that the reason of the Hebrew word is, from the separation and sterility of this Beast, for it is *Pered*, *quia non pariat*. The Chaldy word is *Cudana*, the Arabian, *Beal*; but Gen. 36. for the Hebrew word *Femin*, many translate Mules. The Arabians, *Kegal*; but the Græcian Septuagints, *Hemionous*. The Græcians also call a Mule *Astrabe*, from the strength of his body. The Latines call a Mule *Mulus*, and *Semiasinus*, that is, half an Ass, because on the one side he is an Horse, and on the other side an Ass, and therefore in his conditions he more resembleth an

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Plutarch.

Divers kinds
of Mules.

an Ass then an Horse, whereupon lyeth this tale. A certain *Lydian* Mule seeing his Image in the water, grew to be afraid of the greatness thereof, and thereupon took his heels and ran away as fast as he could; neither could he be stayed by all the wit of his Keepers: At length the Mule remembering that he was the son of an Ass, he stayed his course and came back again neighing. The *Italians* call a Mule *Mulo*, and the female *Mula*, like the *Latines*, and the *Spaniards*. The *French*, *Mulet*, and the female *Mule*, from whence cometh the *English* word Mule. The *Germans*, *Mulbire*, or *Mulefel*. The *Illyrians*, *Mesek*, and the *Flemings*, *Mul*.

There is another kinde of Mules in *Syria*, divers from those which are procreated by the copulation of a Mare and an Ass, and they receive their names from the similitude of their faces. For there is no other cause, why wilde Asses should be called Asses, but only their similitude of tame Asses. And as among wilde Asses some of them are singularly swift, so also among these *Syrian* Mules, there are some excellent speedy Coursers. These Mules procreate in their own kinde, and admit no mixture, which *Aristotle* proved by nine of them which were brought into *Phrygia*, in the dayes of



Pharnacis, the father of *Pharnabazus*. *Theophrastus* also reporteth, that in *Cappadocia*, the Mules engender among themselves, which *Aristotle* remembreth in his wonders, and he might well have spared it, for they are a kinde of Cattel among themselves. There be flocks of Asses and Mares in *India*, where the Mares do willingly admit the Asses in copulation, and bring forth red Mules, the best of all other for running.

But among the *Indian* Phyllians, their Asses, Mules, Oxen, and Horses, are no bigger then Rams. As the Mule is begotten betwixt an Ass and a Mare, so the Burdon is begotten betwixt a Horse, and a shee-ass, wherefore the *Italians* call him *Mulo Bastardo*, that is, a Bastard Mule. For as the Mule more resembleth the Ass then the Horse, so the Burdon more resembleth the Horse then the Ass: the reason is; because all kindes follow the father. The Mule hath some parts proper to the Ass, as long ears, a terrible voyce, a cross upon the shoulders, small feet, a lean body, and in all other things it relembleth a Horse. The length of their ears serveth instead of their fore-top, their color is somewhat brown, but it varieth; for the *Roman* Cardinals have Mules of an ash-colour, and those very great ones with long tails.

They change their teeth, and have in number six and thirty, their neck is like the neck of an Asses, long, but not standing upright, their bellies simple and of one quanty, They want a gall like all four-footed Beasts; and there is a thing in their heart like a bone, as we have shewed before in the story of the Ass.

They eat such food as Horses, and Asses do; but they grow fat by drinking, yet they drink not like a Horse, by thrusting in their noses into the water, but only touch it with their lips.

They love Cucumbers above all other meats, but the flowers and leaves of *Rhododaphne* are poyson to Mules and Asses, and to many four-footed Beasts. Both a Mule and a Horse grow from the first coming forth of their teeth, (by which their age is discerned) and after all their teeth are come forth, it is hard to know their age. The females in this kinde are greater, more lively, and live longer then the males. It hath been found that they have lived to fourscore years of age. Such a one was presented at *Athens*, at what time *Pericles* builded the Temple of *Minerva*, where by reason of his age, he was dismissed from all labour, yet afterwards he would not forsake his companions, but went with them, exhorting them with neighing to undergo the labour cheerfully; whereupon there was a publick decree, that the said Mule should have an ordinary of provender appointed him in *Prytanium*, and that no body should drive him away from their Corn when he eat it, although it were in the Market place.

We have shewed already that this Beast is engendered betwixt an Ass and a Mare, and therefore if a man would create unto himself a notable breed of Mules, he must look to the choice both of his male and female. First of all for the female, that she be of a great body, of sound bones, and of singular good shape, wherein he must not so much expect her velocity or aptness to run, as her strength to endure labour, and especially to bear in her womb a discordant foal, begotten by an Ass, and to confer upon it both the properties of his body, and the disposition. For when Mares do unwillingly receive the genital seed of the Ass, the foal doth not grow to perfection in the Mares belly, until she hath born it thirteen months, whereby it relembleth more the sluggish and dull nature of his father, then the vigor of his mother. But for the helping of their copulation, they pull certain hairs out of the tail of the female, and afterwards binde them together therewith.

There is no lesser regard to be had of the Stallion, lest the want of judgement in the choice of him do frustrate the experiment; seeing therefore they are engendered betwixt a Mare and an Ass, or betwixt a Mare and a wilde Ass, and the Mule, begotten betwixt the wilde Ass and the Mare, doth excel all others, both for swiftness of course, hardness of foot, and generosity of stomach: yet is the tame Ass better for this breed then the wilde Ass, for he will be more beautiful in outward form, and more tractable in disposition; and the Mules engendered by wilde Asses may be compared to these; yet can they never be so tamed, but they retain some qualities of their wilde father; and therefore a Mule begotten betwixt them (I mean betwixt a wilde male Ass and a tame female Ass) are fitter for Nephews then for sons; that is, their foals may beget good Mules, and such as are tameable and tractable, because descent breaketh the corruption of nature, but themselves do never prove profitable.

And therefore it is most commodious and necessary to get such a Stallion Ass to the procreation of Mules, whose kinde by experiment is excellent, and outward parts every way acceptable, such as these are; a long and great body, a strong neck, strong and broad ribs, a wide breast full of muscles, loins full of sinews, strong compacted legs, of colour blackish or spotted, for the Mouse colour is too vulgar, and is not fit in a Mule. For it is but folly in a man to allow and approve every colour he looketh upon, and therefore (*Columella* writeth) when there are spots upon the tongue and palat of a Ram, such also are found in the Wooll of the Lamb he begetteth.

And so also if an Ass have divers coloured hairs upon his eye-brows, or upon his ears, the foal he bringeth forth hath such colours in his skin; And hereunto agree both *Palladius*, and *Abfutus*, saying; he that will have a good breed of Mules, must get an Ass of elegant form, a great stature, square members, a great head not like a Horses, his face, cheeks, and lips not small, his eyes standing out of his head, and not little or hollow, broad nostrils, great ears, not hanging down, but standing upright; a broad and a long neck, a broad breast, rough with the plaights of his muscles,

and strong to endure the kickings of the Mare : great breasts, plates, and other parts under his shoulders, and so down to his legs, which ought to be strong, broad, and corpulent, and standing far asunder, so as he may easily cover the Mare.

A great back, and broad back-bone, neither hollow, nor standing up with bunches, bearing a direct line upon the middle. His shoulders not low, but standing up, the hip-bone full and long, not bending too narrowly nor pinde buttock, nor standing out sharp, and they are best which have the shortest tails.

Furthermore let his stones be great, his knees great and round, standing both alike, his legs bony and without flesh, nothing appearing in them but nerves and skin; not standing awry, nor yet of divers colours, his pasterns not high, nor yet over-low : his feet not low nor bending inward; his hoof thick and hollow within; the inward part of it being clear, according to the saying of Juvenal :

Namq; hic munda nitet ungula Mula.

His voyce clear and not hoarse, for so the Mare will be terrified from copulation. His colour ought to be likewise clear, as all black, having no white belly; or somewhat looking towards purple, and having one black spot upon his mouth, or rather a black tongue, and such as hath been brought up with Horses.

Abstus.

It is the fashion of some to take wilde Asses to tame them, to make Stallions for generation, for they beget the best Mules, if they be liberally fed and not inclosed, and never wax wilde again if they be put among tame Asses. And the young one so gotten by him, will be like the syre : and if any have a desire to make the Mules of strange colours, they must cover the female with a cloth of that colour, wherewithal they desire the young one to be foaled, as we have shewed already in the discourse of Horses, whereby there are raised many excellent kinds and races; or else they bring in their presence at the time of their copulation some great Male Horse or As, by the sight whereof they are made more fruitful, or again, some base and despicable Beast being offered to their view, doth make them to conceive more noble Mules.

If the wilde Asses be at any time heavy, and not willing to cover the Mare, then let there be another female As brought into the presence, by the sight whereof his lust so burneth, that he rageth almost to madness for copulation : And therefore being denyed, the As doth more willingly leap upon the Mare, whom before he loathed. Again, it must be regarded, that the Stallion be tyed and bound fast, so that he may not cover the Mare after she is with foal, nor yet have access unto her, lest by kicking and biting he cause abortment, for many times they break their bonds asunder, and greatly trouble the females with young, therefore they are accustomed to some labour, which taketh down the heat of their lust : yet at the time that they are to cover the Mares, you must use all diligence to awaken the drowsie nature of the Beast, so that with greater spirit the seed of the male and female may meet together.

The Asses of *Lybia* will not cover Mares that have manes until they be shorn off, for it seemeth they disdain that their females should have more ornaments then themselves, which are their husbands.

We have shewed already in the discourse of the As, that Mares do not willingly admit any Stallion As to cover them, except it be such a one as did suck a Mare, which we called a Horse-suckling, or *Equimulcus*. For this cause men that propound unto themselves to nourish races of Mules, take the Colt of an As so soon as it is foaled, and put to it a Mare, giving milk in some dark place, wherein the Mare not doubting any fraud, is deceived, and willingly yeeldeth her udders to the Asses foal; whereunto being accustomed for ten days together, at last she taketh it for her own; and such a Stallion As loveth Mares exceedingly : and on the other side, the Mare refuseth not him. And some say, that although they suck their mothers milk, yet if from the time of their weaning they be brought up among Horse-colts, it is as good as if they had sucked Mares.

If the As be small which is a Stallion, he will quickly wax old, and his issue be the worse, therefore they must provide the largest and strongest Asses, and nourish them with the best Hay and Barly, that so his strength may abound before his copulation. He ought not to be under three years old, nor yet brought unto a Mare which never knew Male, for such a one will beat him away with her heels and mouth, and bring him into perpetual hatred with that kinde; wherefore they use to bring some vile and vulgar As into the presence of the Mare, as it were to woo her, and provoke her to copulation, that so if she beat him away, it may be no hinderance to the Stallion; but if she seem to admit him, and desirous of copulation, then they take him away, and bring the appointed Stallion into his room, and so the Mule is engendered.

For the effecting of their copulation, there must be a place appointed for the purpose, betwixt two walls, having a narrow passage, that so the Mare may not have liberty to fight with the As, and the Mares head must be tyed down to a Manger or Rack, the ground being so fashioned, that her fore-feet may stand much lower then her hinder, and so ascend backward, to the intent that the As may more easily leap upon her back, and she receive the seed more deeply. When the Mare hath brought forth the Mule, she giveth it suck half a year, and then driveth it away, which ought to be brought up in some Mountains, or hard places, that so the hoofs may grow hard and indurable.

Having

Having thus discoursed of the generation of Mules, it now followeth, that we should enquire, whether Mules thus engendered betwixt an Ass and a Mare, do likewise bring forth in their own kinde. *Observatum est* (saith *Pliny*) *è duobus diversis generibus tertii generis fieri, & neutri parentum esse similia, eaq; ipsa quæ ita nata sunt, non gignere, in omni animalium genere, idcirco Mulus non parere.* That is to say; It hath been observed, that out of two divers kindes, a third hath been engendered, and yet like to neither of the parents, and those so engendered did not procreate others in the universal kinde of Beasts, or among all creatures; and therefore Mules conceived betwixt Asses and Mares, do not bring forth young. Whereupon *Camerarius* made this pretty riddle of a Mule:

*Diffimilis patri, matri diversa figura
Confusi generis, generi non apta propago,
Ex aliis nascor, nec quisquam nascitur ex me.*

Democritus is of opinion also, that Mules cannot conceive, and that their secret places are not like other Beasts, and the issue of confused kindes can never engender, but especially in a Mule, because it is made of divers feeds, (I mean divers in quantity, and almost contrary) for the seed of the Ass is cold, and the seed of the Mare is hot.

Aristotle disputing of this matter concerning those kindes that are procreated of divers parents, writeth in this sort: those Beasts joyn in copulation, whose kindes although they are divers, yet are not their natures very disagreeable. If the quantity and stature be alike, and the times of going with young be equal, yet they remain barren that are so begotten, of which cause *Empedocles* and *Democritus* yeeld reason: *Empedocles* obscurely, and *Democritus* more plainly, but neither of them both well; for they alledge the same demonstration about all Beasts out of their kinde. *Democritus* saith, that the passages of the Mules are corrupted in their wombs, because their beginning doth not consist of one and the same kinde; but this is no reason, for that it happeneth also to other Beasts that do engender.

Empedocles he yeelds a reason out of *Plutarch*, about the joyning together of the seeds, and therefore compareth it to a commixtion of Tin and Brasse together, but he saith he doth not understand their meaning, and therefore proceedeth to expresse his own opinion in these words. First (saith he) every one of the Males do beget one of their own kinde, but the females cannot conceive, and this is no great wonder; because that Horses are not always fit for generation, nor Mares to bring forth Colts being covered: and therefore when Asses and Mares do couple together, their issue may be more barren, because they receive the greater hinderance in the diversity of kinde; for besides the coldness of the Asses seed which may be one great cause of his barrenness, they have another property, if they do not breed and engender before the casting of their Colts-teeth, they remain sterile and barren all their life long: for so doth the generative power of the Asses body rest upon a tickle and nice point, apt to rise, or easie to fall away to nothing.

And in like sort, is a Horse prone to barrenness, for it wanteth nothing but cold substance to be mingled with his seed, which cometh then to pass when the seed of the Ass is mixed with it, for there wanteth but very little, but that the Asses seed waxeth barren in his own kinde, and therefore much more when it meeteth with that which is beside his nature and kinde.

This also hapneth to Mules, that their bodies grow exceeding great, especially because they have no menstruous purgation, and therefore where there is an annual breeding or procreation, by the help and refreshing of these flowers, they both conceive and nourish; now these being wanting unto Mules, they are the more unfit to procreation.

The excrements of their body in this kinde they purge with their urine, which appeareth because the male Mules never smell to the secrets of the female, but to their urine, and the residue which is not voided in the urine, turneth to encrease the quantity and greatness of the body, whereby it cometh to pass, that if the female Mule do conceive with foal, yet is she not able to bring it forth to perfection, because those things are dispersed to the nourishment of her own body, which should be employed about the nourishment of the foal: and for this cause, when the *Egyptians* describe a barren woman, they picture a Mule.

Alexander Aphrodisiens writeth thus also of the sterility of Mules. Mules (saith he) seem to be barren, because they consist of Beasts divers in kinde, for the commixtion of seeds, which differ both in habit and nature, do evermore work something contrary to nature, for the abolishing of generation; for as the mingling together of black and white colours doth destroy both the black and white, and produce a swart and brown, and neither of both appear in the brown; so is it in the generation of the Mules, whereby the habitual and generative power of nature is utterly destroyed in the created compound, which before was eminent in both kindes, simple and several. These things saith he.

Alcmaeon, as he is related by *Plutarch*, saith, that the male Mules are barren by reason of the thinness and coldness of their seed, and the females because their wombs are shut up, and the veins that should carry in the seed, and expel out the menstruous purgation, are utterly stopt. And *Empedocles* and *Diocles* say, that the womb is low, narrow, and the passages crooked that lead into it, and that therefore they cannot receive seed, or conceive with young: whereunto I do also willingly

yeeld, because it hath been often found that women have been barren for the same cause. To conclude therefore, Mules bear very seldom, and that in some particular Nations if it be natural, or else their Colts are prodigious, and accounted monsters.

Concerning their natural birth, in hot regions where the exterior heat doth temper the coldness of the Asses seed, there they may bring forth. And therefore *Columella* and *Varro* say, that in many parts of *Africk*, the Colts of Mules are as familiar and common, as the Colts of Mares are in any part of *Europe*.

Mules engender.

So then by this reason it is probable unto me, that Mules may ingender in all hot Countries, as there was a Mule did engender often at *Rome*; or else there is some other cause why they do engender in *Africk*, and it may be that the *African* Mules are like to the *Syrian* Mules before spoken of, that is, they are a special kinde by themselves, and are called Mules for resemblance, and not for nature. It hath been seen that a Mule hath brought forth twins, but it was held a prodigy. *Herodotus* in his fourth Book recorded these two stories of a Mules procreation; When *Darius* (saith he) besieged *Babylon*, the *Babylonians* scorned his Army, and getting up to the top of their Towers, did pipe and dance in the presence of the *Persians*, and also utter very violent & opprobrious speeches against *Darius* and the whole Army, amongst whom one of the *Babylonians* said thus: *Quid istic desidetis o Persæ? quin petius absceditis, tunc expugnaturi nos cum pepererint Mulae.* O ye *Persians*, why do you sit here? wisdom would teach you to depart away; for when Mules bring forth young ones, then may you overcome the *Babylonians*. Thus spake the *Babylonian*, believing that the *Persians* should never overcome them, because of the common proverb, *epean emionoi tekasin*, when a Mule beareth young ones. But the poor man spake truer then he was aware of, for this followed after a yeer and seven months: While the siege yet lasted, it hapned that certain Mules belonging to *Zopirus*, the son of *Megabizus* brought forth young ones, whereat their Master was much moved, while he remembered the aforesaid song of the *Babylonian*, and that therefore he might be made the Author of that fact, communicated the matter with *Darius*, who presently entertained the device; therefore *Zopirus* cut off his own nose and ears, and so ran away to the *Babylonians*, telling them that *Darius* had thus used him, because he perswaded him to depart with his whole Army from *Babylon*, which (he said) was in expugnable and invincible. The *Babylonians* seeing his wounds, and trusting to their own strength, did easily give credence unto him; for such is the nature of men, that the best way to beguile them is, to tell them of those things they most desire, for so are their hopes perswaded, before they receive any assurances. But to proceed, *Zopirus* insinuated himself further into the favour of the *Babylonians*, and did many valiant acts against the *Persians*, whereby he got so much credit, that at last he was made the General of the whole Army, and so betrayed the City unto the hands of *Darius*: Thus was *Babylon* taken when Mules brought forth.

A History of Mules.

Another Mule brought forth a young one, at what time *Xerxes* passed over *Hellepont*, to go against *Græcia*, with his innumerable Troops of Souldiers, and the said Mule so brought forth, had the genitals both of the male and female.

Unto this I may adde another story out of *Suetonius*, in the life of *Galba Caesar*. As his father was procuring Augurisms or divinations, an Eagle came and took the bowels out of his hands, and carried them into a fruit-bearing-oak, he enquiring what the meaning of that should be, received answer, that his posterity should be Emperours, but it would be very long first: whereunto he merrily replied; *Sane cum Mula pepererit*; I sir, when a Mule brings forth young ones: which thing afterwards happened unto *Galba*; for by the birth of a Mule, he was confirmed in his enterprises when he attempted the Empire; so that, that thing which was a prodigy and cause of sorrow, and a wonder to all other people, was unto him an ominous confirmation of joy and gladness, when he remembered his Grand-fathers Sacrifice and saying. Therefore it was not ill said of *Democritus*; *Mula non naturæ opus, sed humane machinationis, adulterinum inventum, & furtum esse videntur.* Mules are not the proper work of nature, but an adulterous invention of humane policy, robbing nature: for (saith he) when a certain *Median* found his Ass covering of his Mare, whereupon afterwards she fell to be with foal, and seeing the young one to communicate with both natures, they drew it into a custom to cover the Mares with their Asses, for the engendering of such a breed.

The invention of Mules. *Ælianus*.

Some are of opinion that Mules first began among the *Paphlagonians*, which before the *Trojan* war were called *Eneti*, and afterwards *Veneti*: but in *Gen. 36.* we finde that *Anab* the son of *Zibeon*, keeping his fathers Asses, did invent *Gemim*, that is, Mules, as some interpret. But rather I believe, that while Asses and Horses ran wilde in the Wilderness among themselves, the wilde Asses first began this race. The male at seven years old may engender, because he is of a hotter nature then the female; and also doth not in his generation confer any part of his bodily growth to the young one, and sometimes he engendereth when he hath lost his foremost teeth, and after the first copulation, he never engendereth more. The young one so generated, is called *Ginnus* and *Pumilio*, for it is a very dwarf, according to the observation of *Martial*:

Aristotle.
The quantity of a Mules foal.

*His tibi de Mulis non est metuenda ruina,
Altius in terris pene sedere soles.*

Such as these were kept in the Court of the Duke of *Ferraria*, and although in all things they resemble the mother, yet are named after the father, and such also are the *Burdones* before spoken of

of in the story of the Horse. Mules are begotten both by Mares, She-asses, and Bulls, but yet those are the best that are begotten betwixt an Ass and a Mare, And thus much for the generation of Mules.

They are nourished with the same meat that Horses and Asses are, annoyed with the same sicknesses, and cured with the same means; generally blood-letting is good for them, and for their diet Bullimung. In *Scythia* they can abide no cold, and therefore the Horses are there used instead of Mules. In some Countries the Horses can abide no cold, but the Asses and Mules bear out (as *Herodotus* writeth,) and as we have shewed before in the story of the Ass: when the *Grecians* were at *Troy*, and were destroyed by a consuming pestilence, the first of all their company that dyed were their Dogs and their Mules, and the reason of it was, because the pestilence arising out of the earth, they by the sense of smelling, which is very quick in both kindes, did first of all draw in that poyson from the earth.

Collumella saith, that the medicines for the Oxen do also cure Mules, yet there are special medicines not to be neglected, which we will expresse in this place. For a Mule that hath a Feaver, give her raw Cabbage; and for one that is short-winded use blood-letting, and for a drink give it a pinte of Wine and Oyl mixed with half an ounce of Frankincense, and half a pinte of the juyce of Horehound. For the scratches or disease in the hoofs, lay to it Barley meal, then make suppuration with a knife, and cure it by laying two linnen clothes, or by a pinte of the best Garum, and a pound of Oyl infused into the left nostril of the Mule, whereunto you may adde, the whites of three or four Eggs separated from the yolks.

The female Mule may be burned in the feet, or let blood after the manner of Horses, and some Countrey men give in their food the herb *Veretrum*, or else the seed of *Hyoscamus* or Hen-bane beaten to powder and drunk in Wine. For the languishing of the chine or leanness, they make this drink; have an ounce of beaten Brimstone, a raw Egg, a penny weight of the powder of Myrrh, mingled all three together in Wine, and so poured down the Mules throat, is a present remedy to cure it. As also for the pain in the belly and all manner of coughs, the herb *Medica* is special good for the said languishing disease. So also to fat the Mule if it be given green, and not dried like Hay, a little at a time for fear the Beast be suffocated with overmuch blood. When a Mule is tired or heated, let the load be taken off, and turn her forth to wallow in some convenient place. If that suffice not, take some fat, and put it into her chaps, that so she may suck it down, and pour Wine after it.

For to keep the necks of Mules from wringing and loosening their skin, use this medicine, Take two pound of Hogs-grease sod three times, or unto the third part two pintes of Vinegar, and therewithall anoint the Mules neck. As we have shewed that the pains of a Horses belly and guts are best of all cured by the sight of a Mallard, swimming in the water, whereby they are speedily delivered from all manner of torment, so the same hath as great or greater operation to cure the pains of the Mules belly. It is reported by *Avicen*, that Mules fall into madness, and in that madness bite their master mortally. They are likewise subject to the Gout, and especially to swellings about the Crown of their pasterns, but they are cured as Horses and Oxen.

They live long, ordinarily to fifty years, and sometimes to fourscore, the reason thereof is given by *Celsus*: *Animalia quae frequenter coeunt brevioris sunt vitae, inde fit, ut Muli equos superent, videndi diuturnitate*; that is to say, Those Beasts and creatures which oftentimes joyn in copulation have but short lives, and from thence it cometh, that Mules live longer then Horses.

The Epithets of a Mule are these; pack-bearer, dirty, *Spanish*, rough, and ill-formed. There is an Adage or proverb called *Mulus Marianus*, and by it is signified a man which is apt both for to obey and to rule; it was taken from *Marius* the great Roman Souldier and Commander, whose fashion was, when he had commanded any of his Souldiers to fetch a burden, or do any wilde service, he himself would put his hand unto it. It signifieth properly a bearing back, or Colt-staffe, as we say in *English*, whereupon poor men carry their burdens, and from thence it was translated into a proverb, to signifie all that do obey commands. There be some which give another reason of this proverb, for they say, that when *Scipio* did besiege *Numantia*, he did not only determine to look into the weapons of his Souldiers, but also to his Horses, Mules, and Chariots. Then *Marius* brought forth an Horse, nourished by himself very delicately: Besides the Horse a Mule of very comely body, far excelling all other Mules both in gentleness and in strength. Therefore seeing the Emperor was delighted with the Beasts of *Marius*, and would now and then make mention of the Mule, at length it came to a common jest, to call a double diligent servant *Mulus Marianus*. The *Italians* do commonly call those men Mules which are base born, and not by lawful marriage.

Concerning the disposition of Mules, it is well observed by *Aristotle*, that Mules are always tame; and if at any time they be more wilde, they abate their untameable nature by drinking of Wine, because by the operation of the Wine, their heels and hard parts do resolve and grow soft; by the same reason that Apes by drinking of Wine loose their nails, and men accustomed to drunkenness fall into palsies: for there is such a dispersing and discussing nature in Wine, that it dissolveth all nerves and hard things in the bodies of Beasts, even as water dissolveth hard fruits and Pease, and Vinegar maketh lead as soft as an Egge, that it may be drawn through a Ring: and such is the nature of Mules, that after they have drunk Wine, they feel themselves disarmed, and therefore give over to resist, because by kicking backwards, they receive more harm then they give,

Sicknesses of
Mules and
their cures.

*Collumella.
Rutius.*

Pelagonius

The Epithets
and conditions
of Mules.

Alumnus.
The inward
disposition of
Mules.

Pliny.

and thus the guiltiness of their own weakness, maketh them gentle against their wills, for otherwise they hate mankind, and are nothing so tractable as Horses. For Varro saith, that they have so much confidence in their heels, that by them alone, they kill Wolves when they come among them.

Use of Mules
in their several
works.
Cardan.

Mules were wont to be used for plowing, and for carrying both of men and burthens; but now in most parts of Europe, Judges and great Princes ride upon them until they be old, and then they sell them to the poor men, who turn them into the Mountains where they suffer them to run wilde, till their hoofs be hardened for long travails, and then they take them up again. They have been also accustomed to ploughing, according to these verses;

*Quantum mularum sulcus praecedit in arvo,
Tantum is praecurrit.*

For the Mules did plough more speedily, and come to the lands end more quickly then either the Ox or Horse. And Martiall saith, that they were used in Carts to draw Timber, according to these verses;

*Vixq; datur longas Mularum vincere mandras,
Quaeq; trahi multo marmora fune vides.*

They were also used in race at the games of Olympus, as we have already shewed in the story of the Horse, but that custom dyed quickly, because that the Arcadians could not endure Mules. The price of Mules was great, for Crispin (saith Juvenal) gave six thousand pieces of money for a Mule, and yet he saith it was not well worth six pound; the verses of Juvenal are these:

*Crispinus Mulum sex millibus emit
Aequantem sane paribus sestertia libris,
Ut perhibent qui de magnis majora loquuntur.*

The Cappadocians payed to the Persians every year besides Silver and Gold, fifteen hundred Horses, two thousand Mules, and fifty thousand Sheep; but the Medians payed twice so much. The dwarfish Mules called Ginni were also much set by, not for use, but only for delight, as dwarfs are kept in Noblemens houses. When Dystistratus the son of Hippocrates first of all affected Tyranny at Athens, and laboured to get the government to himself, as he came out of his Countrey, being drawn with a Chariot by Mules, he wounded himself and his Mules very grievously, and so drave them into the Market place, shewing his wounded body and Beasts unto the Athenians, telling them that so he was wounded by his enemies, and that he escaped death very narrowly; but if it pleased them to grant him a gard of souldiers to defend his body, he would take revenge upon their and his enemies: whereunto they yeilded, and he having gotten a Band of Souldiers under that pretence, presently took upon him the government and Sovereignty.

To conclude this story of Mules, I do read in Aelianus, that Serpents do love to feed on the flesh of dead Mules; and two things are very eminent in the nature of Mules, one of their understanding, and the other of their friendship. Concerning the first, Plutarch relateth this story of a Mule that was accustomed to carry Salt, who upon a season going through a water, fell down underneath his burden, so that the Salt took wet afterwards; the Beast perceived how by that means, his extrem load melted away, and so became lighter and lighter; afterward the Mule grew to this custom, that whensoever he came loaded with Salt over that water, he fell down in it for the easing of his carriage; his Master perceiving his craft, on a day he loaded him with Wool, and Spunges, and so the Beast coming over the water, fell down as he was wont to do with his Salt, and coming out of the water, he felt his load to grow heavier then it was wont to do, instead of lessening, whereat the Beast much mused, and therefore never afterward durst lie down in the water, for fear of the like increase of his load. The other observation of their love and friendship, ariseth from the Proverb, *Mulum Muli scabunt*, that is, Mules scratch one another, and help one another in their extremity; from whence cometh our proverb, One good turn asketh another; and the Latine proverb, *Senes mutuum fricant*, old men rub one another; which did arise upon this occasion: as Adrian the Emperour so passed a long on a day by a bath, he saw an old Souldier in the bath rubbing himself upon a Marble stone for want of a man to help him, whereupon in pity of his case he gave him maintenance for himself and a man: afterwards other old Souldiers seeing how well their fellow had sped, went likewise into the bath before the Emperours eyes, and rubbed themselves upon the Marble, thinking to get as much favour and liberty as their fellow had gotten, but the Emperour seeing them, and perceiving their fetches, bid them rub one another, and thereupon came that proverb. And thus much for the natural discourse of Mules, now followeth the medicinal.

The Medicines of the Mule.

Pliny.

The dust wherein a Mule shall turn or rowl himself, being gathered up and spread or sprinkled upon the body of any one who is ardently and fervently in love, will presently assuage and quench his

his inflaming desire. A man or woman being poysoned, and put into the belly of a Mule or Camel which is new killed, will presently expel away the force of the venom or poyson, and will confirm and make strong their decayed spirits, and all the rest of their members: For as much as the very heat of those Beasts is an Antidote or preservative against poyson. *Ponzeitus.*

The skin or hide of a Mule being put unto places in any ones body which are burned with fire, doth presently heal and cure the same: it doth also heal sores and grievous ulcers which are not come unto Impostumes.

The same is an excellent remedy for those whose feet are worn or wrung together through the pinching of their shoes, to help themselves withall, and for those which are lame, and those which are troubled with those grievous sores called Fistulae. If any man shall take either in meat or drink the marrow of a Mule, to the weight or quantity of three golden crowns, he shall presently become blockish and altogether unexpert of wisdom and understanding, and shall be void of all good nutriment, and manners. The ear-laps or ear-lages of a Mule, and the stones of a Mulet being born and carried by any woman, are of such great force and efficacy, that they will make her not to conceive. The heart of a Mule being dried and mingled with Wine, and so given to a woman to drink after that she is purged or cleansed thirty times, hath the same force and power that the aforesaid medicine hath for the making of a woman barren. The same effect against conception hath the bark of a white poplar tree, being beaten together with the reins of a Mule, then mingled in Wine, and afterwards drunk up. If the herb called Harts-tongue, be tied upon any part of a woman, with the spleen of a Mule, but as some have affirmed by it self only, and that in the day which hath a dark night, or without any Moonshine at all, it will make her altogether barren and not able to conceive. If the two stones of a Mule be bound in a piece of the skin of the same Beast and hanged upon any woman, they will make that she shall not conceive so long as they shall be bound unto her. The left stone of a Weefil being bound in the skin or hide of a Mule, and steeped or soaked for a certain space or time in Wine, or in any other drink, and the drink in which they are so steeped given to a woman to drink, doth surely make that she shall not conceive. The stones of a Mulet being burned upon a barren and unfruitful tree, and put out, or quenched with the stale or urine of either Man or Beast which is gelded, being bound and tyed in the skin of a Mule, and hanged upon the arm of any woman after her menstrual fluxes, will altogether resist and hinder her conception. The right stone of a Mule being burned and fastened unto the arm of a woman which is in great pain and travail, will make that she shall never be delivered until the same be loosened and taken away, but if it shall happen that a Maid or young Virgin shall take this in drink after her first purgation or menses, she shall never be able to conceive, but shall be always barren and unfruitful. *Avicenna.*

The matrix or womb of a female Mule taken and boiled with the flesh of an Ass or any other flesh whatsoever, and so eaten by a woman which doth not know what it is, will cause her never to conceive after the same. The worm which is called a Glowworm, or a Globird, being taken out of the womb or matrice of a female Mule, and bound unto any part of a womans body, will make that she shall never be to able conceive. *Albertus.*

The dust or powder which proceedeth from the hoofs of a male or female Mule, being mixed or mingled with Oyl which cometh from Myrtleberries, doth very much help those which are troubled with the Gout in their legs or feet. The dust of the hoofs of a Mule being scorched or burned, and the Oyl of Myrtle-berries being mingled with Vinegar, and moist or liquid Pitch, and wrought or tempered in the form or fashion of a plaister, and opposed or put unto the head of any one whose hairs are too fluent and abundant, doth very speedily and effectually expel the same. *Æsculapius.*

The liver of a Mule being burned or dried unto dust, and mixed with the same Oyl of Myrtle-berries, and so anointed or spread upon the head, is an excellent and profitable remedy for the curing of the aforesaid enormity. *Sextus.*

The dust or powder of the hoofs of a female Mule is very wholesome and medicinable for the healing and curing of all griefs and pains which do happen or come unto a mans yard, being sprinkled thereupon. The hoof of a Mule being born by a woman which is with childe, doth hinder her conception. The filth or uncleanness which is in the ears of a Mule, being bound in the skin or hide of a little or young Hart, and bound or hanged upon the arm of a woman after her purgation, doth cause that she may not conceive. The same being in like manner mingled or mixed with Oyl which is made of Beavers-stones, doth make any woman to whom it is given to drink, altogether barren. The dirt or dung of a Mule being mixed with a Syrup made of Honey, Vinegar, and Water, and given to any one to drink that is troubled with the heart-swelling, will very speedily and effectually cure the pain thereof. *Pliny.*

The dung of a Mule being burned or dried and beaten small, and afterwards sifted, or seirced and washed or steeped in Wine, and given to any woman to drink, whose menstrual fluxes come forth before their time, will in very short space cause the same to stay. The stale or urine of a male or female Mule being mingled with their dirt or dung, is very good and medicinable for those to use which are troubled with corns and hard bunches of flesh which grow in their feet. *Marcellus.* *Assa fœtida* being mingled with the urine of a Mule to the quantity of a bean, and drunk, will altogether be an impediment and hinderance to the conception of any woman. The stale or urine of a Mule being taken to the quantity of eight pounds, with two pounds of the scum or refuse of silver, and a pound of old and most clear Oyl; all these being beaten or pounded together until they come to the thick-
ness

Aegiheta.

ness of the fat or sweat which falleth from mens bodies and boiled until they come unto so liquid and thin a juyce, that they will speedily and effectually cure and help those which are troubled with the Gout or swelling in the joynts.

Rafis.

Marcellus.

If a woman shall take the sweat which proceedeth from a Horse, and anoint it upon a Woollen cloth, and so apply it as a plaister or suppository unto her secret parts, it will make her altogether barren. There is an excellent remedy for those which are purfie or short winded, which cometh also by the Mule: which is this; To take or gather the froath or some of a Mule, and to put it into a cup or goblet, and give it in warm water, for a certain space or time to be drunk, either to the man or woman which is troubled with this enormity, and the party which do so use it, shall in short space have remedy; but the Mule will without any lingring of time, or consuming of time in pain and sorrow die.

Pliny.

The milt of a male or female Mule, being drunk in a potion or juyce made of Hony, Water, and Vinegar, to the value or quantity of three cruces or cups full, is commended for an excellent cure and medicine, for those which are troubled and grieved with that pestiferous and deadly disease called the Falling-sickness, otherwise Saint Johns Evil. There is an excellent remedy for those which are troubled in the voiding of their water, which is this; To take the Ring-worms or Tettors which do grow upon both the legs of a Mule above their knees, and which do stick thereupon in the manner of a dried thick skin, and to burn or parch them, and afterwards to put or place them upon him which is troubled with the Strangury, or cannot void his water but by drops-meal, so that there be great care had to cover close with cloven or clefted cloaths, or garments, the suffumigation thereof, lest that the smell or fume do fade, and void away, and this being so used will be very effectual for the curing and driving away of the aforesaid disease.

Marcellus.

Trallianus.

The hairs of a Mule and an Ass being mingled together and dried, and put into some certain perfume, and so given to any one to drink which is troubled with the Falling-sickness, will presently expel and drive it quite away. In the place or part of mans body wherein a male or female Mule shall bite, *Ponzettus* affirmeth, there will presently arise, and grow small pushes, or little blisters which are always full of red and pale humors, and filthy corruption, which can almost be healed and cured by no salve, potion, or medicine, by any means applied thereunto. There are some also which do suppose the biting of Mules to be poyson, for truly there doth not only follow those aforesaid pushes and biles, but also an extreame and almost indurable inflammation and burning, through all the parts of the body, which doth greatly distemperate and vex the same.

But it is affirmed by others, that the biting of Mules is to be cured after the same manner as the biting of a Cat, which is thus: First, to wash and clarify the wound or bitings where the corruption is with Vinegar mingled with Oyl of Roses, and then to take Peny-royal, or the herb called Neppe, and boil it, and stroke or rub the wound very softly with it, and it will in time wholly cure it. And thus much shall suffice at this time concerning the cures and medicines of Mules.

Of the Neades, Neides, or Naides.

Heraclides, Cælius, Volaterranus, and Euphron, do all write that once the Isle of Samos was a Desert place, and that there were in it certain Beasts called Neades, whose voyce was so terrible that they shook the earth therewith, and from those strange and great voyces came the vulgar Greek proverb, *Meizoon mia toon Neadon, maius una Neadum*. That is, One of the Neades was a great wonder, for it was used in ostentation, to shew that there was nothing in the whole world comparable to their vast and huge quantity. Of the parts of these Beasts there is no memory but only in *Suidas* and *Ælianus*, who affirm, that their bones were to be seen in their days. And this title I thought good to insert into this History, leaving the Reader to consider, whether he will take them for Elephants, or for any other greater Beast; for my opinion if it be desired, I think them rather (if there ever were any such) that they were Elephants of greater stature then ever since were seen, and not any generation of Beasts now lost and utterly perished.

Of the OUNCE, the description whereof was taken by Doctor Cay in England.

The names of
this Beast.The description
of D. Cay.

There is in Italy a Beast called *Alphæus*, which many in Italy, France, and Germany, call *Ennza*, and some *Unzia*, from whence *Albertus*, and *Isidorus* make the Latine word *Unctia*, and I take it to be the same Beast which is called *Lozanum*, and for the description of it, I can follow no better Author then Doctor Cay, who describeth it in this fashion:

The Ounce (saith he) is a most cruel Beast, of the quantity of a village or mastiffe Dog, having his face and ears like to a Lions, his body, tail, feet, and nails like a Cats, of a very terrible Aspect, his teeth so strong and sharp, that he can even cut Wood in sunder with them: he hath also in his nails so great strength, that he only fighteth with them, and useth them for his greatest defence. The colour of the upper parts of his body being like whitish Oak, the lower being of the colour

of ashes, being every where mixed with a black and frequent spot, but the tail more black then the rest of his body, and as it were obscured with a greater spot then the residue. His ears within are pale without any blackness, without black, without any paleness, if you do but take away one dark and yellow spot in the midst thereof, which is made of a double skin rising, meeting in the top of the ear, that is to say, that which ariseth from the outward part of the jaw on the one side, and cometh from the upper part of the head on the other side, and the same may be easily seen and separated in the head being dried.



The rest of the head is spotted all over with a most frequent and black spot (as the rest of the body) except in that part which is betwixt the nose and the eyes, wherein there are none, unless only two, and they very small: even as all the rest are lesser then the rest, in the extream and lowest parts: the spots which are in the upper parts of the thighs, and in the tail, are blacker and more singular, but framed in the sides with such an order, as if all the spots should seem to be made of four. There is no order in the spots, except in the upper lip, where there are five rows or orders.

In the first and uppermost two which are severed; in the second, six, being joyned in that manner, as if they should seem to be in one line: These two orders are free, and not mingled amongst themselves. In the the third order there are eight joyned together, but with the fourth where it endeth, they are mixed together. The fourth and fifth in their beginning (which they have to the nose) being separated with a very little difference, do forthwith joyn themselves, and run together through all the upper lip, and do not make a spot through all the same, but a broad line. In the Beast being dead the spots do so stand, (as I suppose) for the contraction of the skin. In the Beast being alive, those spots do seem separated every one in their own orders. In the very middle between the lower lip, although they do keep the quantity, do not observe the order. The nose is blackish, a line being softly led through the length, and only through the top of the outside thereof. The eyes are gray, the former teeth are only six, not very unlike to mens teeth, except those which are placed in the middle are lesser, and they in the uttermost part are greater, as also higher then those which are low.

In this Beast the teeth are both great, sharp, and long, being joyned to the rest in the lower jaw, and in the upper severed with so great space, that the lower teeth may be received therein. These when the Beast liveth are covered with his lips, but when he is dead they are otherwise, his lips being through driness shrunk together. His fore-teeth are very big, and as long as two *Roman* fingers, for at the very root thereof it cannot be comprehended in less then two *Roman* fingers and a half compass. In his tooth there is a certain small hollownes through all the length thereof, which notwithstanding doth not appear except the tooth be broken. The lower jaw is very hard and stiffe having three teeth unequal in quantity, as the upper four. Between the great tooth and the first cheek tooth of the under jaw, there is a void space to the quantity of one finger, from which the first is presently placed, lesser then the other two: to this there is another greater close adjoyning: and after this there is also a third greater then the second. In the upper jaw in that middle space (which I said was of one *Roman* finger) between the great tooth and the first cheek-tooth, there is a very little tooth, and without any form, coming so small out of the jaw, that there is no lower tooth which may answer to the same. After that, in the space of half a finger there is a second, to which there is joyn'd a third, and after this a fourth, between themselves the upper and the lower cheek-teeth, and so are joyned together as they agree in the manner of a comb; the two first teeth in the lower jaw, and the second and third in the upper jaw are of the same figure, as the compass of the tops of the Crowns of the Kings of *England* and *France*. The third is of the same figure in the lower jaw, and the fourth of the upper jaw, except that the interior side of both the gums

The meat and
nature,

gums which is nearer to the throat, by nature is taken away. There was no other teeth joyned to these in both the jaws. But I do not know whether there be any more teeth in the gum beyond the reach of ones finger, in the farthest row or behinde the teeth. But this I know, that to all appearance there was none remaining, and it may be that his lips were cut or slit down beyond nature to shew his teeth. It liveth of flesh, and the female is more cruel then the male, though lesser, and one of either sex was brought out of *Mauritania* into *England* in a Ship, for they are bred in *Lybia*. If they have any appointed time of copulation, it is near the month of *June*, for in that month the male covereth the female. We have shewed already that Lions may be tamed, and that also hath been manifest in *London*, both in the Tower and in the City, for there the Lions did play with their Keepers, and kiss them without harm, (as Doctor *Cay* saith he saw them do) but these Beasts were so fierce and wilde as they could never be tamed, for when soever their Keeper should change or remove them from place to place, he was constrained first of all to strike them so hard with a club upon the head, that they should lie half dead, and so put them in a sack or wooden chest made of purpose with holes in it for respiration and expiration, to carry them to and fro from one lodging to another: after an hour they revived again like a Cat, but when they were to be taken out of the hutch or chest, he was constrained likewise to astonish them again with his club; but afterwards they grew to invent an Engine to put the Beast in, and take him out of the hutch with a rope or cord, and so do remove them from place to place. The Keepers affirmed, that they did seem much to disdain the Lions, and oftentimes endeavoured to fight with them, but they were kept asunder with grates: they would not hurt a little Dog when he was put to them but when they were hungry; but if a great Dog were put unto them, they tore him in pieces, although their bellies were never so full. When they are angry, they utter a voyce like an angry Dog, but they double the (*Arr*) twice, and also bigger then any Dogs, proceeding out of a large breast and wide arteries, much like to the howling of a great Mastive, that is shut up in a close room alone against his will. Some say it is longer then a Dog, but it did not so appear in *England*, for we had many Mastive Dogs as long as it, but yet was it every way greater then any other kinde of Dogs. It is but a vain report, that some have said, when a Man or Beast is bitten with an Ounce, presently Mice flock unto him, and poyson him with their urine.

For it was seen in *England*, that two of the Keepers were wounded and shrewdly bitten by one of the Ounces, and there followed them no other harm then that which followeth the biting of an ordinary Dog, or like a small incision with a knife. He never fighteth but at the head, and that treacherously, if he perceive his adversary to be too strong or too great for him, and that by counterfeiting quietness, benevolence and peace, as if he meant no harm: for so he served a great Mastive Dog in *England*, at the first sight he seemed to applaud his coming, looking cheerfully upon him, and wagging his tail, presently he fell down on his belly, as it were to invite the Dog to come near him by his submission; lastly, he got close unto him, creeping as though he would play with him, putting out one of his feet, as Cats do when they play, wherewithal the great Dog grew secure, and began nothing to mistrust the Beast, at length when the Ounce saw his opportunity, he suddenly leaped upon his neck, and took him by the throat, and pulled it out, after he had killed him, with his nails he opened the Dogs breast, and taking out his heart, did eat it before all the people in most cruel manner; thus far Doctor *Cay* speaketh of the Ounce, and beside him no other Author that I know.

The gall of this Beast is deadly poyson, it hateth all creatures, and destroyeth them, especially men; and therefore it may well be said to be possessed with some evill spirit. It loveth none but his own kinde. And thus much for the Ounce.

Of the ORYX.

His Beast in *Pliny* and *Oppianus* is called *Orynx* and *Oryx*, and my conjecture is, that his name is derived from *Oryssein* which signifieth to dig. Saint *Jerom* and the Septuagints for *Theo*, Deut. 14. and Isa. 51. translate *Oryx*: but *David Kimhi*, and the better learned men interpret it a wilde Ox. But the *Hebrew Dischon* may in my opinion be so translated, yet herein I refer it to the learned Reader.

It is certain, that it is of the kinde of wilde Goats by the description of it, differing in nothing but this, that the hair groweth averse, not like other Beasts, falling backward to his hinder parts, but forward toward his head, and so also it is affirmed of the *Aethiopian Bull*, which some say is the *Rhinocerot*. They are bred both in *Lybia* and *Egypt*, and either of both Countries yeeldeth testimony of their rare and proper qualities. In quantity it resembleth a Roe, having a beard under his chin. His colour white or pale like milk, his mouth black, and some spots upon his cheeks; his back-bone reaching to his head, being double, broad, and fat; his horns standing upright, black, and so sharp, that they cannot be blunted against bras or iron, but pierce through it readily.

Aristotle and *Pliny* were of opinion, that this Beast was *Bifulcus* and *Unicornis*, that is, cloven-footed, and with one horn: The original of their opinion, came from the wilde-one-horned-goat, whereof *Schnebergerus* a late Writer writeth thus: *Certum est minimeque dubium in Carpatho monte, versus Rusiam Transylvaniamque reperiri feras similes omnino rupicapris, excepto quod unicum cornu ex media fronte nascitur, nigrum, dorso inflexum, simile omnino rupicaprarum cornibus*, that is to say; It is with-

out all controversie, that there are wilde Beasts in the Mountain *Carpathus*, towards *Russia* and *Transylvania*, very like to wilde Goats, except that they have but one horn growing out of the middle of their heads, which is black and bending backward like the horns of wilde Goats. But the true Oryx is described before out of *Oppianus*, and it differeth from that of *Pliny*, both in stature and horns. *Ælianus* saith, that the Oryx hath four horns, but he speaketh of the *Indian Oryx*, whereof there are some yearly presented to their King, and it may be both there and elsewhere, diversity of regions do breed diversity of stature, colour, hair, and horns. *Simeon Sethi* affirmeth of the Musk-cat, that it hath one horn, and it is not unlikely that he hath seen such an one, and that the Oryx may be of that kinde.

But concerning their horns, it is related by *Herodotus*, *Pollux*, and *Laur. Valla*, that there were made instruments of musick out of them, such as are Citherns or Lutes, upon whose bellies the Musicians played their Musick, by striking them with their hands; and that those Beasts were as great as Oxen; and all this may be true, notwithstanding we have shewed already, that they are as big as Roes, for *Pliny* speaking that by relation, or by sight, it is likely that he had seen a young one.

There be also Sea-beasts called *Oryges*, and *Orcæ*; and there is in *Egypt* an Oryx, which at the rising of *Canis Syrius*, or the little Dog is perpetually sorrowful; and this cause the *Lybians* to mock the *Egyptians* for that they fable, the same day that the little Dog-star riseth, their Oryx speaketh. But on the contrary themselves acknowledge, that as often as the said Star ariseth with the Sun, all their Goats turn to the East, and look upon it; and this observation of the Goats, is as certain as any rule of the Astronomers. The *Lybians* affirm more, that that they do presage great store of rain, and change of weather.

Plutarch.
Ælianus.

The *Egyptians* also say, that when the Moon cometh near to the East, they look very intently upon her, as upon their sovereign Goddess, and make a great noise, and yet they say they do it not for her love, but for her hate, which appeareth by knocking their legs against the ground, and fastening their eyes upon the earth, like them which are angry at the Moons appearance: And the self same thing they do at the rising of the Sun.

For which cause the ancient Kings had an observer, or one to tell them the time of the day, fitting upon one of these Beasts, whereby very accurately they perceived the Sun rising; and this they did by turning their tail against it, and emptying their bellies; for which cause by an Oryx the *Egyptians* discipher an impure or godless wretch: for seeing that all creatures are nourished by the Sun and Moon, and therefore ought to rejoyce at their appearing, only this filthy wretch disdaineth and scorneth them.

The reason why they rejoyce at the little Dog-star, is, because their bodies do perceive an evident alteration of the time of the year, that cold weather and rain are over-passed, and that the vapors of the warm Sun are now descending upon the earth, to clothe it with all manner of green and pleasant herbs and flowers.

There is another kinde of Oryx which according to *Columella*, was wont to be impaled among Deer and Harts, the flesh whereof was eaten, and used for the commodity of his Master: This was impatient of cold. It grew till it was four years old, and afterwards through age decreased, and lost all natural vigor.

But to return to the Oryx intended, from which we have digressed; their horns whereof we late spake, are not only strong and sharp like the horn of the Unicorn, and the Rhinocerot, but also solid, and not hollow like the horns of Harts. The courage and inward disposition of this Beast, is both fearful, cruel, and valiant; I mean fearful to Men and Beasts, but fearless in it self: For saith my Author; *Neq; enim Canis larratum timet, neq; apri effervescentem feritatem, neq; tauri mugitum refugit, neq; Pantherarum tristem vocem, neq; ipsius Leonis vehementem rugitum horret, neq; item hominum robore movetur, ac sepe robustum venatorem occidit*: That is to say; He feareth not the barking of the Dog, nor the foaming wrath of the wilde Boar; he flyeth not the terrible voyce of the Bull, nor yet the mournful cry of the Panthers; no, nor the vehement roaring of the Lion himself; and to conclude, he is not moved for all the strength of man, but many times killeth the valiantest hunter that pursueth him.

When he seeth a Boar, a Lion, or a Bear, presently he bendeth his horns down to the earth, whereby he conformeth and establisheth his head to receive the brunt, standing in that manner until the assault be made: at which time he easily killeth his adversary, for by bending down his head, and setting his horns to receive the Beast, he behaveth himself as skilfully as the Hunter, that receiveth a Lion upon his spear. For his horns do easily run into the breasts of any wilde Beast, and so piercing them, causeth the bloud to issue, whereat the Beast being moved, forgetteth his combate and falleth to licking up his own bloud, and so he is easily overthrown. When the fight is once begun, there is none of both that may run away, but standeth it out until one or both of them be slain to the ground, and so their dead bodies are found by wilde and savage men. They fight with all, and kill one another, also they are annoyed with Linces, I mean the greater Linces: of the cruelty of this Beast *Martiall* made this distichon:

Matutinarum non ultima præda ferarum
Sævus Oryx, constat qui mihi morte canum.

Oppianus.
Pliny.
Albertus.

It is reported of this Beast, that it liveth in perpetual thirst, never drinking by reason that there is no water in those places where it is bred, and that there is in it a certain bladder of liquor, whereof whosoever tasteth, shall never need to drink. This Beast liveth in the Wilderness, and notwithstanding his magnanimous and unresistible strength, wrath, and cruelty, yet is he easily taken by snares and devices of men; for God which hath armed them to take Elephants and tame Lions, hath likewise indued them with knowledge from above, to tame and destroy all other noisome Beasts.

Concerning the picture of this Beast, and the lively visage of his exterior or outward parts, I cannot express it, because neither my own sight, nor the writings of any credible Author, doth give me sufficient direction to deliver the shape thereof unto the world; and succeeding Ages upon my credit: and therefore the Reader must pardon me herein. I do not also read of the use of the flesh, or any other parts of this Beast, but only of the horns, as is already expressed, whereunto I may adde the relation of *Strabo*, who affirmeth the *Æthiopian Silli*, do use the horns of these Beasts in wars instead of swords and spears: for incredible is the hardness and sharpness of them, which caused *Juvenal* to write thus:

*Et Getulus Oryx hebeti lautissima ferro
Ceditur.*

For although of the own length they are not able to match a pike, yet are they fit to be put upon the tops of pikes, as well as any other artificial thing made of steel or iron; and thus I will conclude the story of this Beast.

The SCYTHIAN WOLF.



Of the OTTER.

Of the names
and the reasons
thereof.

There is no doubt but this Beast is of the kinde of Beavers, because it liveth both on the water and on the land, and the outward form of the parts beareth a similitude of that Beast. The *Italians* do vulgarly call this Beast *Lodra*, and the *Latines* besides *Lutra*, *Fluviatilis Canicula*, a Dog of the Waters; and some call them Cats of the Waters; the *Italians* besides *Lodra*, call it also *Lodria*, and *Loutra*; the *French*, *Une Loutre*, or *Ung Loutre*; the *Savoyans*, *Une Leure*; the *Spaniards*, *Nutria*; and the *Illyrians*, *Widra*; the *Gracians*, *Lytra*, because it sheareth asunder the roots of the trees in the banks of the Rivers. Some of the *Gracians* call it *Enhydria*, although properly that be a Snake living in the waters, called by *Theodorus*, and *Hermolaus*, *Lutris*. *Albertus* calleth it *Luter*, and *Anadry* for *Enhydria*. Also *Beatus* by *Silvaticus*; and the *Gracians* call filthy and thick waters *Lutrai*; for which cause, when their Noble ancient Women went to bathe themselves in water, they were bound about with skins called *Oan Loutrida*, that is, a Sheeps skin used to the water. The *French* men call the dung of an Otter, *Espranite de loutres*; the steps of an Otter, *Leise Marches*; the whelps of an Otter, *Cheaux*, by which word they call also the whelps of Wolves, Foxes, and Badgers.

Stephanus.
Pliny.

The places of
their abode.

Hermolaus.

Olaus.

The several
parts.

Although they be a kinde of Beaver, as we have said already, yet they never go into the Sea, and they abound almost in all Nations, where there are Rivers or Fish-pools, as namely in *Italy*, *France*, *Germany*, *Helvetia*, *England*, and *Scandinavia*. Likewise in all *Sarmatia*, in the Bay of *Borysthenes*. They are most plentiful in *Italy*, where the River *Padus* is joyned to the Sea. Also they abound in *Naples*. Their outward form is most like unto a Beaver, saving in their tail, for the tail of a Beaver is fish, but the tail of an Otter is flesh. They are less then Beavers, some compare them unto a Cat, and some unto a Fox; but I cannot consent unto the Fox. They are bigger then a Cat and longer, but lesser then a Fox, and therefore in my opinion they are well called Dogs of the water. They exceed in length, for in *Swetia*, and all the Northern Rivers they are three times so long as a Beaver. They have a rough skin; and the hair of it very soft and neat, like the hair of a Beaver, but different in this, that it is shorter and unequal, also of colour like a Chest-nut, or brownish, but the Beaver

vers is white or ash-colour. It hath very sharp teeth, and is a very biting Beast, likewise short legs, and his feet and tail like a Dogs, which caused *Bellonius* to write, that if his tail were off, he were in all parts like a Beaver, differing in nothing but his habitation. For the Beaver goeth both to the Salt waters, and to the fresh, but the Otter never to the salt.

Although it live in the waters, yet it doth not suck in water, but air; that is, it doth not breath like fishes through the benefit of water, and therefore it maketh his dens near the water, wherein also they are wont to bring forth their young ones: They make their dens so artificially, even as the Beaver, with bows, and sprigs, or sticks, couching together in excellent order, wherein he sitteth to keep him from wetness. It hunteth fishes, and although it breatheth like another four-footed Beast, yet it will remain a great while under the water without respiration; for the greediness of fishes it runneth many times into nets, which are set by men in waters to take fish, whereinto being entered, it is suffocated for want of breath, before it can shear afunder the nets and make way for himself to come out.

For in the hunting of fish it must often put his nose above the water to take breath: it is of a wonderful swiftness and nimbleness, in taking his prey, and filleth his den so full of fishes, that he corrupteth the air, or men that take him in his den: and likewise infecteth himself with a pestilent and noisome savour, whereupon as the *Latines* say of a stinking fellow, He smels like a Goat; so the *Germans* say of the same, He smels like an Otter. In the Winter time he comes out of the caves and waters to hunt upon the land, where finding no other food, he eateth fruits, and the bark of trees. *Bellonius* writeth thus of him, he keepeth in pools and quiet aters & rivers, terrifying the flocks of fish, and driving them to the bank-sides in great number, to the holes and creeks of the earth, where he taketh them more copiously, and more easie: but if he want prey in the waters, then doth he leap upon the land, and eat upon green herbs: he will swim two miles together against the stream, putting himself to great labour in his hunger, that so when his belly is full, the current of the stream may carry him down again to his designed lodging.

The females nourish many whelps together at their udders, until they be almost as big as themselves, for whom the hunters search, as for the dams among the leaves and boughs, which the over-flowings of waters in the Winter time, have gathered together, and laid on heaps. It is a sharp biting Beast, hurtful both to men and dogs, never ceasing or loosing hold after he hath laid his mouth upon them, until he make the bones to crack betwixt his teeth, whereupon it was well said by *Olaus Mag.* *Lutra mordaces quadrato ore.* Otters are most accomplished biters.

It is a very crafty and subtil Beast, yet it is sometimes tamed, and used in the Nor-

thern parts of the world, especially in *Scandinavia*, to drive the fishes into the Fisher-mens nets:



The framing of their den.

His prey and food.

Agricola.

Albertus.

Taking and
hunting of
Otters.

Albertus.

Use of their
skins.

for so great is the sagacity and sense of smelling in this Beast, that he can directly winde the fishes in the waters a mile or two off, and therefore the Fishers make great advantage of them; yet do they forbear his use because he devoureth more then needeth, for he is never so tamed, that he forgetteth his old ravening; being tamed, on the land he is very full of sport and game. I marvel how it came into the Writers heads to affirm, that the Beaver constraineth the Otter in the Winter time, to trouble the water about her tail, to the intent it may not frieze, which opinion we have confuted already in the discourse of the Beaver, for herein I agree with *Albertus*. *Fiber fortior est lutra, & acutissimis dentibus, quapropter eam vel expellit, vel occidit.* The Beaver is much stronger then the Otter, having also most sharp teeth, and therefore either expelleth her out of the waters, because they live both upon one kinde of food, or else destroys her: wherefore it is unreasonable to believe that he preserveth her to keep his tail from friezing. The flesh of this Beast is both cold and filthy, because it feedeth upon stinking fish, and therefore not fit to be eaten. *Tragus* writeth, that this notwithstanding is dressed to be eaten in many places of *Germany*, and I hear that the *Carthusian* Fryers or Monks (whether you will) which are forbidden to touch all manner of flesh, of other four-footed Beasts, yet they are not prohibited the eating of Otters. These Otters are hunted with special Dogs, called Otter-hounds, and also with special instruments called Otter-speares, having exceeding sharp points: for they are hardly taken, and Beasts do not willingly set upon them, specially in the waters: when they feel themselves to be wounded with the spear, then they come to land, where they fight with the Dogs very irefully, and except they be first wounded, they forsake not the waters: for they are not ignorant how safe a refuge the waters are unto them, and how unequal a combat they shall sustain with Men and Dogs upon the land, yet because the cold water annoyeth their green wounds, therefore they spin out their lives to the length of the thread, chusing rather to die in torments among Dogs, then to die in the waters. There is a kinde of *Assa* called *Benioyn*; a strong herb which being hung in a linnen cloth near fish-ponds, driveth away all Otters and Bevers. The hair of the skin is most soft, neither doth it teese his beauty by age; for which cause as also for that no rain can hurt it, when it is well dressed it is of great price and estimation, and is sold for seven or eight shillings: thereof also they make fringes in hems of garments, and face about the collars of men and womens garments, and the skin of the Otter is far more pretious then the skin of the Beaver; and for this cause the *Swetian* Merchants do transport many into *Muscovia* and *Tartaria* for clokes and other garments.

Thereof also in *Germany* they make caps, or else line other caps with them, and also make stocking-soles; affirming that they be good and wholesome against the Palsie, the Megrin, and other pains of the head. The blood of an Otter is prescribed against the swelling of the Nerves. The Liver dried in an Oven against the Bloudy-flux, and against the Colick being drunk in Wine. The stones are also prescribed to be given against the Falling-sickness, and all pains in the belly. And thus much for the Otter.

There be certain beasts which are kindes of Otters, which because they live in the waters, and yet being unknown to us in *England*, I have thought good to expresse them in this place by their *Greek* and *Latine* names. In the first place that which the *Gracians* call *Latax*, broader and thicker then an Otter, and yet liveth in the waters, or else goeth to the waters for his food, yet breatheth air and not water like Otters. The hair of this Beast is very harsh, betwixt the similitude of a Sea-calf and a Hart, and it hath also strong and sharp teeth, where-withall in the night season they shear asunder small boughs and twigs: It is called also *Fasto*, *Lamyakyz*, and *Noertz*.

There is another called *Satyrion*, and *Fassuron*, and *Chebalus*, whose skin is black, and very pretious, and very much used for the edging of the best garments: these live also in ponds, lakes, and still waters.

There is a third kinde called *Satherium*, *Kacheobon*, and *Kachynen*, and *Martarus*, having a white throat, and being as big as a Cat; and finally unto these may be added *Porcos*, a four-footed beast living in the waters in the River *Isther*: And *Mesolus* another four-footed beast living in some Rivers of *India*, being as big as a Calf.

of

Of the Panther, commonly called a Pardal, a Leopard,
and a Libbard.



THere have been so many names devised for this one beast, that it is grown a difficult thing, either to make a good reconciliation of the Authors which are wed to their several opinions, or else to define it perfectly, and make of him a good methodical History: yet seeing the greatest variance hath arisen from words, and that which was devised at the first for the better explication and description of it hath turned to the obscuration and shadowing of the truth, I trust it shall be a good labour to collect out of every Writer that which is most probable concerning this Beast, and in the end to express the best definition thereof we can learn out of all.

First of all therefore for as much as all the question hath arisen from the Greek and Latine names, it is most requisite to express them, and shew how the different construction began. The Grecians do indifferently call *Pordalis*, *Pardalis*, and Panther: the Latines, *Panthera*, *Pardalis*, *Pardus*, and *Leopardus*, and these names are thus distinguished by the learned. *Pordalis* they say signifieth the male, and *Pardalis* the female, and also *Panthera* among the Latines for the female, and *Pardus* for the male, and these are understood of a simple kinde without commixture of generation. *Leopardus* the Leopard or Libbard, is a word devised by the later writers, compounded of *Leo* and *Pardus*, upon opinion that this Beast is generated betwixt a Pardal and a Lion, and so indeed it ought properly to be taken, if there be any such. *Pliny* is of opinion, that *Pardus* differeth from *Panthera* in nothing but in sex, and other say, that betwixt the Lions and the Pardals there is such a confused mixed generation as is betwixt Asses and Mares, or Stallions and Asses: as for example, when the Lion covereth the Pardal, then is the Whelp called *Leopardus*, a Leopard or Libbard, but when the Pardal covereth the Lioness, then is it called *Panthera* a Panther.

In this controversie the Hebrew and Arabian names which are generally indifferently translated Panthers or Libbards, do take up the strife and almost end the controversie, for *Namer* in Hebrew, and *Albec* or *Alshed* in Arabick, are so translated both in holy Scripture, and also in *Avicen*, as may appear by these places following. *Esa. 11. Habibabit Lupus cum agno, & (Namer) Pardus cum hædo acubabit.* That is to say, The Wolf shall dwell with the Lamb, and the Pardal, Libbard, and Panther shall lie with the Kid. So in the vision of *Daniel*, chap. 7. among the four beasts coming out of the Sea, the Prophet seeth *Namer* a Leopard. In the 13. Revel. of *S. John*, he seeth another Beast rising out of the Sea, having ten horns, and he saith it was like *Pardalei*, which *Erasmus* translateth *Pardo*, a Leopard. *Jer. 5. Pardus (Namer) vigilat super civitatem eorum, ut omnem inde egredientem discerpit.* That is, a Panther or Pardal watcheth at the gates of the City, that he may tear in pieces every one that cometh forth. *Factus sum eis sicut Leo, & sicut Pardus (sicut Namer) directus ad viam suam.* For *Namer* in that place the Grecians translate *Pardalis*, a Pardal. In the 13. *Jer. Si mutare potest Æthiops pellem suam, aut Pardus maculas suas, & vos poteritis bene facere, cum didiceritis malum.* If the Blackmoore can change his skin, or the Leopard his spots, then may you do well which have learned to do ill. *Cant. 4. Coronaberis de vertice Siner, & Hermon, de cubilibus Leonum, de montibus Pardorum.* That is, Thou shalt be crowned from the top of *Siner* and *Hermon*, from the dens of the Lions, and the Mountains of the Leopards. Now according to *Brocardus*, the Mountain of the Leopards is distant from *Tripolis*, in the holy land two leagues.

The several
names of Pan-
thers.

A more exact
definition of
Pardals and
Leopards.

leagues. *Rasis* and *Avicen*, two *Arabians*, do call the Panther and Leopard by one name, *Alpheth*, or *Alphit*, so that by comparing all these together, the Panther, Pardal, Libbard, and Leopard, are but one Beast, called by divers names. For the farther manifesting hereof, it is good to examin what is said of the Pardal and Leopard in particular, that so having expressed that, it may be clear by the discourse succeeding, that there is no difference betwixt them and the Panther, or very small. First of all therefore it is said of the *Pardus*, that it differeth not from the Panther, but only in sex, and that the skin hath received a natural tincture of divers spots. *Aristotle* writeth thus of it, *Cutis Chamæleontis distincta maculis ut Pardalia*. The skin of the *Chamælion* is spotted like a Pardals, and in relation of *Lampridius*, where he sheweth how *Heliogabalus* was wont to shut up his drunken friends, cum *Leonibus*, *Leopardis*, & *ursis*, ita ut exasperati in cubiculo eodem *Leones*, *ursos*, *Pardos* cum luce, vel quod est gravius nocte invenirent, ex quo plerique exanimati sunt, and so forth.

By which words it is apparent, that those which in the first place he calleth Leopards, in the last place he calleth Pardals, and the only difference betwixt the Leopard, Pardal, and Lion, is that the Leopard or Pardal have no manes: and therefore they are called *Ignobiles Leones*. *Isidorus* and *Solinus* write in this manner: *Pardus secundum post Pantheram est genus, varium ac velocissimum, & præcepit ad sanguinem, saltu enim ad mortem ruit, ex ad ulterio Pardi & Leane, Leopardus nascitur, & tertiam originem efficit*. That is to say, the Pardal is the next kinde to a Panther, being divers coloured and very swift, greedy after blood, and catcheth his prey by leaping: the Leopard is bred betwixt the Pardal and the Lioness, and so that maketh a third kinde: by which testimony it appeareth, that these names make three several kinds of Beasts, not distinct in nature, but in quantity, through commixture of generation.

The greatest therefore they call Panthers, as *Belunensis* writeth. The second they call Pardals, and the third, least of all, they call Leopards, which for the same cause in *England* is called a Cat of the Mountain. And truly in my opinion, until some other can shew me better reason I will subscribe hereunto, namely that they are all one kinde of Beast, and differ in quantity only through adulterous generation. For in *Africk* there is great want of waters, and therefore the Lions, Panthers, and other Beasts do assemble themselves in great numbers together at the running Rivers, where the Pardals and the Lions do engender one with another: I mean the greater Panthers with the Lionesses, and the greater Lions with the Panthers; and so likewise the smaller with the smaller, and thereby it cometh to pass that some of them are spotted, and some of them without spots.

Boytius.

Pliny.

The Pardal is a fierce and cruel Beast, very violent, having a body and minde like ravening birds, and some say they are ingendered now and then betwixt Dogs and Panthers, or betwixt Leopards and Dogs, even as the *Lycopanthers* are ingendred betwixt Wolves and Panthers. It is the nature of these Pardals in *Africk*, to get up into the rough and thick trees, where they hide themselves amongst the boughes and leaves, and do not only take birds, but also from thence leap down upon Beasts and Men when they espy their advantage; and all these things do belong unto the Panthers.

Of the Leopard.

Concerning the Leopard, the word it self is new and lately invented, for it is never found among any of the ancients, before *Julius Capitolinus* or *Spartianus*: *Sylvaticus* maketh no difference betwixt *Pardalis* and *Leopardus*, and the *Italians* generally call a Pardal *Leopardo*, and never *Pardo*, except some of the Poets, for brevity sake in a verse. The Leopard is like to a Lion in the head and form of his members, but yet he is lesser and nothing so strong: by the sight of a Leopards skin *Gesner* made this description of the Beast:

The length (saith he) from the head to the tail, was as much as a mans stature, and half a cubit. The tail of it self three spans and a half, the breadth in the middle three spans, the colour a bright yellow distinguished into divers spots, the hair short and mossie.

The price of the skin was about five nobles, or forty shillings, for they differ in price, according to the Regions out of which they are brought, they which come furthest are sold dearest, and they which come less way are sold cheapest. It is a wrathful and an angry Beast, and whensoever it is sick, it thirsteth after the blood of a wilde Cat, and recovereth by sucking that blood; or else by eating the dung of a man. Above all other things it delighteth in the *Camphory* tree, and therefore lyeth underneath it, to keep it from spoil; and in like sort the Panther delighteth in sweet gums and spices, and therefore no marvel if they cannot abide Garlick, because it annoyeth their sense of smelling: And it is reported by *S. Ambrose*, that if the walls of ones house or sheep-coat be anointed with the juyce of Garlick, both Panthers and Leopards will run away from it, but of this matter we shall say more afterwards.

Albertus.

The Leopard is sometimes tamed, and used in stead of a Dog for hunting, both among the *Tartarians*, and other Princes, for they carry them behinde them on Horse-back, and when they see a Deer or Hart, or convenient prey, they turn them down upon them sodainly, who take them and destroy them; yet such is the nature of this Beast, as also of the Pardal, that if he doe not take his prey at the fourth or fift jump, he falleth so angry and fierce, that he destroyeth whomsoever he meeteth, yea many times his Hunter. Therefore the Hunters have always a regard to carry with them a Lamb or a Kid, or some such live thing, wherewithal they pacifie him after he hath missed his game, for without blood he will never be appeased: and thus much shall suffice to have spoken of the difference betwixt Panthers, Pardals, and Leopards, and their several names in *Greek* and *Latine*, from whom almost all Nations do derive their denomi-

denomination, for the *Italians* call it *Leonpardo*; the *French*, *Leopard*, and *Lyopard*; and *Germans*, *Lep-* The names in
pard, and *Lefarad*, and *Pantherthier*; the *Spaniards*, *Leonpardal*, and *Leopardo*; the *Illyrians*, *Leubart*; other lan-
 the *Chaldeans*, *Nimra*; and some make no difference betwixt this and the *Arabian Wolf*: The reason guages,
 of the *Greek* word *Pardalis*, or *Pordalis*, (for they signifie both one) seemeth to me in most probabi-
 lity to be derived from the *Hebrew* word *Pardes*, signifying a *Garden*, because as colours in a Gar-
 den make it spotted, and render a fragrant smell, so the Panther is divers coloured like a *Garden* of
 sundry flowers, and also it is said to carry with him a most sweet savour whither soever he goeth,
 and therefore in ancient time they made their *Ivory* tables standing upon pictures of Panthers,
 whereof *Juvenal* writeth thus in one of his *Satyres*:

*Olim ex quavis arbore mensa fiebat,
 At nunc divinus canendi nulla voluptas
 nisi iustitiae erbes*

*Grande ebur, & magno sublimis Pardus biatu,
 Dentibus ex illis quos mittit porta Syenae
 Jam nimios capitq; graves, &c.*

For the same cause *Pardalis* was the name of a notable Harlot, for as the Panthers by their sweet
 smells draw the Beasts unto them and then destroy them, so also do Harlots deck and adorn them-
 selves with all alluring provocations, as it were with enchanted odours, to draw men unto them, of
 whom they make spoil and rapine: There is a precious stone also called *Lapis Pantherus*, brought out
 of *India*, whereupon if a man look before the Sun-rising he shall see divers colours, namely, black, *Evax.*
 red, green, russet, purple, and Rose colour, and they say it hath as many vertues as it hath colours, *Sylvaticus.*
 but I list not to follow the name any further. *Albertus.*

The Countries breeding Panthers are *Abasia* in the Kingdom of *Melacha*, in the Isle of *Sumatra*. *Vartoman.*
 Likewise in *Asia*, especially *Syria*, for there are none in *Europe*, all *Africk* over they are plentiful, as *Countries of*
 in *Lybia* and *Mauritania*, where abound all store of wilde Beasts. Likewise beyond *Catadupa*; for *Apol-* *Panthers.*
lonius and his companions saw there many Lions and Panthers. In *Arabia* the furthest part, namely
 the Promontory of *Dyra* towards the South, are the strongest Pardals of the world, (as saith *Sirabo*.)
 Likewise in the *Mediterranean* Region beyond *Barygaza* toward the South, unto *Dachinabades*, and to-
 wards the East are all sorts of wilde Beasts, both Tygers and Panthers; and *Diodorus* writeth that
 in that part of *Arabia*, joyning upon *Syria*, there Lions and Pardals are both more in number and
 greater in quantity then in *Lybia*.

Also it is said by *Volaterranus* and *Gillius*, that the Panther of *Lycia* and *Caria* are very long, but yet
 weak and without carriage, being not able to leap far, yet is their skin so hard as no Iron can pierce.
 Betwixt the River *Ganges* and *Hiphasis*, *Apollonius* saw many Panthers. The *Indians* also breed many *Leo Afric.*
 and make them tame, and Leopards do live in the Woods of *Barbaria*.

It is apparent by that which is already said, that the Panther is the name of the greater Pardal, *The several*
 and the Leopard of the lesser, which the *Arabians* call *Alnemur*, and *Alshead*, *Alnemur* is bigger then *parts of Pan-*
 a *Linx*, but like a Leopard, having greater and sharper nails and feet, black and terrible eyes, and *thers.*
 therefore stronger, fiercer, and bolder then the Leopard, for it setteth upon men, and destroyeth
 them. *Oppianus* describeth both kindes in this manner; There are (saith he) two kindes of Par-
 dals, a greater and a lesser, the greater are broader backt, and bigger in quantity, the lesser be-
 ing less in quantity, but not inferior in strength: both of them have the same shape and colour of
 body, except in their tail: for the greater Pardal hath the lesser tail, and the lesser the greater:
 either of them have solid and sound thighs, a very long body, bright seeing eyes, the apples where-
 of do glister under their eye-lids, which are gray and red within like to burning coals, their teeth
 pale and venemous, their skin of divers colours, yet bright and pleasant, the spots standing like so
 many black eyes upon it: thus far *Oppianus*. Such skins are oftentimes sold in the *Marts of Europe*,
 which are brought in bundles twenty or thirty together, and it is not to be forgotten, which *Vol-*
terran citeth out of *Aelianus*, that there is in this kinde of Pardals a Beast called *Bitis*, not unlike to
 the vulgar Leopards in all parts, except that it wanteth a tail; and they say that if this Beast be seen
 by a woman, it will instantly make her to be sick; but to proceed to the residue of the parts of these
 Beasts, we must remember that which *Aristotle* writeth in his *Physiognomy*; as is recorded by *Ada-*
mantius: *Leoparfectissimam maris ideam pra se fert, Pardalis vero femineam formam exprimit, erubus*
tantum exceptis, quibus ad invadendum fortiter utitur, that is to say: Among all Beasts the Lion doth
 most resemble the male, and the Pardal the female, except in the legs which she useth to take her
 prey.

It hath a little face, a little mouth, little eyes, somewhat white, plain, and not much hollow, a long
 fore-head, ears rather round then smooth or broad, a neck very long and slender, the breast not
 well set out with ribs, because they are small; the back long, the buttocks and thighs very fleshy, the
 parts about the small of the belly or loins are more smooth, less hollow and buncy; the colour di-
 vers, and the whole body inarticulate, and not well compounded for the outward sight: and it is
 to be remembered (saith *Cardan*) that all ravening Beasts are like a Cat, as Lions, Panthers, Lincses,
 and Pardals, for they have in common the length and strength of their claws, beautiful party co-
 loured skins; a little head and round face, a long tail, nimbleness of body, and wildeness of nature;
 living upon the meat they get in hunting.

The *Persians* call a Pardal *Barbaet*, and *Scaliger* describeth it thus: In his red or yellow hair he is
 like a Lioness, but set with divers black spots both in length and breadth, as if they were painted.
 It hath a brown face, asperfed with black and white, and it is to be remembered, that as other
 Beasts

Alb. rhus.
Pliny.

Beasts are either all black, or all red, or all white, or all of one colour by nature, so also it is natural to Pea-cocks and Panthers, to have divers colours in them, for there are in *Hircania* Panthers with little round spots like eyes, both black, white, blew, and green, as both *Solinus* and *Claudius* testifie, which caused *Martial* to write thus; *Picto quod juga delicata collo Pardus sustinet*. There is a land called *Terra erembotum*, inhabited by the *Troglodytes* and *Sarazens* in *Lybia*, where the upper face of the earth is compared unto the Panthers skin, because through the heat of the Sun it is burned, and died as it were into divers colours; so that ye shall see divers spots of white, black, and green earth, as if it were done of purpose by the hand of man. The teeth of the Panther are like saws, as are also a Dogs and a Lions: their tongue of such incredible sharpness, that in licking it gratech like a file.

Aristotle.

The females have four udders in the midst of their belly, the heart is great in proportion, because he is a violent Beast, terrifying man. There are many fissures in their feet. Their former feet have five distinct claws or fingers, and their hinder-feet but four, for little ones among four-footed beasts have five fingers upon their hinder-feet: when they go, they hide their nails within the skin of their feet, as it were in sheaths, never bringing them forth but when they are in their prey, to the intent they should never be broken nor dulled. Their tails have no long hairs at the end like a Lions or Oxes; and the Leopard hath a wider mouth then the Pardal.

The food of
Panthers.

The female is oftener times taken then the male, the reason is given by *Volaterran*; because she is inforced to seek abroad for her own meat and her young ones. The place of their aboad is among the Mountains and Woods, and especially they delight in the tree Camphory. They raven upon flesh both Birds and Beasts: for which cause they hide themselves in trees, especially in *Mauritania*, where they are not very swift of foot, and therefore they give themselves to take Apes, which they attain by this policy: when they see the Apes, they make after them, who at their first approaching climbe up into the tops of trees, and there sit to avoid the Panthers teeth, for she is not able to follow them so high, but yet she is more cunning then the Apes, and therefore deviseth more shifts to take them, that where nature hath denied her bodily power, there she might supply that want by the gifts of the minde. Forth therefore she goeth, and under the tree where the Apes are lodged, she lyeth down as though she were dead, stretching out her limbs, and restraining her breath, shutting her eyes, and shewing all other tokens of expiration. The Apes that sit on the tops of the tree behold from on high the behaviour of their adversary, and because all of them wish her dead, they more easily believe that which so much they desire, and yet dare not descend to make tryal. Then to end their doubts, they chuse out one from among them all, whom they think to be of the best courage, and him they send down as it were for an espy, to certifie all the residue: forth then he goeth with a thousand fears in his minde, and leapeth from bough to bough with no great hast, (for dread of an ill bargain) yet being come down, dareth not approach nigh, but having taken a view of the counterfeit, and repressed his own fear, returneth back again: After a little space he descendeth the second time, and cometh nearer the Panther then before, yet returneth without touching him. Then he descendeth the third time, looking into his eyes, and maketh trial whether he draweth breath or no, but the Panther keepeth both breath and limbs immoveable, by that means imboldning the Apes to their own destruction; for the Spie-ape sitteth beside the Panther, and stirreth not: now when those which are above in the tree, see how their intelligencer abideth constantly beside their adversary without harm, they gather their spirits together, and descend down in great multitudes, running about the Panther, first of all going upon him, and afterwards leaping with great joy and exultation, mocking this their adversary with all their apish toys, and testifying their joy for her supposed death: and in this sort the Panther suffereth them to continue a great season, till he perceiveth they are thoroughly wearied, and then upon a sudden he leapeth up alive again, taking some of them in his claws, destroying and killing them with teeth and nails, till he have prepared for himself a rich dinner out of his adversaries flesh. And like as *Ulysses* endured all the contumelies and reproaches both of his maids and Wives suiters, until he had a just occasion given him of revenge, so doth the Panther the disdainful dealing of the Apes: whereupon came the proverb, *Pardi mortem dissimulat*, *Thanaton Pardaleos hypocrinetai*, against a cunning dissembling fellow; such a one as *Brutus* was, who counterfeited madness that he might get the Empire.

Their love of
spices.

So great is the love of this Beast to all Spices and Aromatical trees, that they come over all the Mountain *Taurus* through *Armenia* and *Silia*, when the windes bring the savour of the sweet gum unto them, out of *Pamphilia* from the tree *Storax*: whereupon lyeth this story; There was a certain Panther which was taken by King *Arfaces*, and a golden collar put upon his neck, with this inscription; *Rex Arfaces Deo Niseo*, that is, King *Arfaces* to the God *Bacchus*: for *Bacchus* was called *Niseus*, of a City *Nisa* in *India*. This Beast grew very tame, and would suffer himself to be handled and stroked by the hands of men, until the Spring time that he winded the savour of the Aromatical trees, and then he would run away from all his acquaintance, according to his kinde, and so at last was taken in the neather part of the Mountain *Taurus*, which was many hundred miles distant from the Kings Court of *Armenia*.

The savour or
smell of Pan-
thers.

We have shewed already how they love the gum of Camphory, watching that tree, to the end to preserve it for their own use, and indeed as *Ælian* saith: *Admirabilem quantam odoris suavitatem oiet Pardalis, quam bene olendi præstantiam divino munere donatam, cum sibi propriam plane tenet, tum vero cætera animalia ejus hanc vim præclare sentiunt*: that is to say, The Panther or Pardal smelleth most sweetly,

sweetly, which favour he hath received from a divine gift, and doth only feel the benefit of it himself, but also bewray it unto other Beasts: for when he feeleth himself to be hungry and stand in need of meat, then doth he get up into some rough tree, and by his favour or sweet smell, draweth unto him an innumerable company of wilde Goats, Harts, Roes, and Hindes, and such other Beasts, and so upon a sudden leapeth down upon them, when he espyeth his convenient time.

And Solinus saith, that the sweetness of his favour worketh the same effect upon them in the open fields, for they are so mightily delighted with his spotted skin and fragrant smell, that they will alwayes come running unto him from all parts, striving who shall come nearest him to be satisfied with the sight, but when once they look upon his fierce and grim face, they all are terrified and turn away: for which cause the subtle Beast, turneth away his head, and keepeth that from their sight, offering the more beautiful parts of his body, as an alluring bait to a Mouse, and destroy them: and from hence there are some which are of opinion, that he receiveth his name *Panthera*, of congregating together all kinde of Beasts to look on him, for *Pan* signifieth all, and *Theria* signifieth Beasts. *Albertus* is of opinion, that the report of the Panthers favour or sweet smell is but a fable, because (he saith) it is written as a *Maxim* among Philosophers, that *Cetera animalia præter hominem neq; suaviter neq; moleste odoribus affici*, that is: That no creatures (man excepted) can be said to smell either sweetly or sowrely: and *Theophrastus* writeth, *Animal nullum penitus odoratum est nisi quis dixerit Pardalin, belluarum censui bene olere*, that is: There is no creature that can be said to be so odoriferous, except the Pardal seem to smell well to the scents of other Beasts: for it is certain, that there be some favours and smells which Beasts do follow and refuse, being led thereunto onely for the choise of their meat: for by their noses they choose that which is the convenient and agreeable to their natures, but that they should be drawn by any smells or favours meerly, and for no other cause but the pleasure of the scents, as it is a reasonable part in man, so it is unreasonable, to attribute the very same unto a Beast.

Yet herein by the favour of *Albertus* I dissent from him, for it being granted, which all men yeeld unto, that either the spots of his skin, which seem to be as many eyes as colours, or else the sweet favour which cometh from him is the occasion of the Beasts assembling about him; then it followeth, that when he is from the earth, and lodged in a tree, and so not visible to the eyes of the beasts, if then I say they assemble about the tree wherein he is lodged, there is no cause to draw the Beasts unto him, but the attractive power of his sweet favour: and what want of reason can it be justly deemed, to say that Beasts love sweet favours, seeing both *Albertus*, and all other learned men that I know, do confidently affirm, that many wilde Beasts do forsake their meat to hear musick; and also the Badger doth forsake his own den when he perceiveth the Fox hath emptied his belly therein.

Therefore I will conclude this point with admiration of the work of the Creator, to consider how wisely he hath disposed his goodness, and how powerfully he communicateth the affections of his divinity even unto brute Beasts, who doth not distinguish them asunder only by their outides and exterior parts, nor yet by their insides and qualities of their mindes, but also by the air they draw in, and the favour they send forth.

Among all kindes of Beasts the male is most couragious and fierce, except in Bears and Panthers, for the female Panther is more generous then the male. At the time of their lust, they have very peculiar voices, which caused the Poet to write thus:

Panther caurit amans, Pardus biando felit.

At the sound of those voices other Beasts come about them, as both Lions, Lionesses, Wolves, and Thoes. They never bear above once, because when the young ones begin to stir in the dams belly, and gather strength for birth, they cannot tarry the just time of their delivery, but tear out the womb or bag wherein they lie with the sharpness of their nails, and therefore their dam is forced for the avoiding of pain to cast them forth of the womb both blinde and deformed, which yet she nourisheth tenderly, but afterwards can never conceive again, by reason that her womb is so torn with the claws of her first whelps, that it is not able to retain to perfection the received seed of the male.

Panthers live together in flocks or heards, and greatly delight in their own kinde, but in no other that I know, and therefore I wonder from what Author *Isidorus* wrote. *Panther omnium animalium amicus est excepto Dracone*; That the Panther is friendly to all Beasts except the Dragon. It was not in vain, that the Poets feigned the Nurses of *Bacchus* to be turned into Panthers, and that they devoured *Pentheus* because he railed upon *Bacchus*: for as a Lion doth in most things imitate and resemble the very nature of Man, so after the very self same manner doth the Panther of a Woman, for it is a fraudulent, though a beautiful Beast, or (as *Adamantius* writeth) *anibere ingenium molle est, effeminatum, iracundum, insidiosum, & fraudulentum, timidum simul & audax, his moribus corporis etiam forma respondit*: that is; The disposition of the Panther is wanton, effeminate, outrageous, treacherous, deceitful, fearful, and yet bold: and for this occasion, in holy Scriptures it is joyned with the Lion and the Wolf, to make up the triplicity of ravening Beasts: and therefore also we read, that the wisest among the *Egyptians*, when they will signifie a cunning man covering the secret corruption and evil disposition of his minde, pretending good, and yet intending evil, they picture

Aristotle.
Volaterranus.

Isidorus.

Their time of
lust.

Their love
and hatred;
enemies and
friends.

The description
of Pan-
thers.

a Panther; for we have shewed already, how he doth cover both his head and his body to take his prey.

The taming of Panthers.

This Beast is never so tamed but that he falleth into his wilde fits again. Their love to their young ones is exceeding great, for if at any time while they are abroad to forage, they meet with Hunters that would take them away, they fight for them unto death, and to save them from blows, interpose their own bodies, receiving mortal wounds, but if they finde their young ones taken out of their den in their absence, they bewail their loss with loud and miserable howling.

Demetrius the Philosopher, relateth this story of a Panther, that lay in the high way to meet with a man to help her young ones out of a ditch or deep pit wherein they were fallen, at length there appeared in her sight the father of *Philius* a Philosopher, who presently began to run away as soon as he saw the Beast, but the poor distressed Panther rowled after him in humble manner, as though she had some sute unto him, and took him lightly by the skirt of his garment with one of her claws: the man perceiving that she gave suck by the greatness of her Udders hanging under her belly, began to take pity upon her, and layed away fear, thinking that indeed which happened, that her young ones were taken from her by one means or other; therefore he followed her, she drawing him with one of her feet unto the cave whereinto her young ones were fallen, out of which he delivered them to the mother as ransom for his own life, and then both she and the young ones did follow him rejoycing, out of the danger of all Beasts, and out of the Wilderness, dismissing him without all manner of harm, which is a rare thing in a man to be so thankful, and much more in a Beast: and unto this story of their love and kindeness to their young ones, I may add another, worthy to be remembered out, of *Aelianus*:

A notable story of a Panther's love to his companion.

There was (saith he) a man which brought up a tame Panther from a whelp, and had made it so gentle, that it refused no society of men, and he himself loved it as if it had been his wife. There was also a little Kid in the House brought up tame, of purpose to be given unto the Panther when it was grown to some stature or quantity, yet in the mean season the Panther played with it every day: at last it being ripe, the Master killed it, and laid it before the Panther to be eaten, but he would not touch it, whereupon he fasted till the next day, and then it was brought unto him again, but he refused it as before; at last he fasted the third day, and making great moan for meat, according to his usual manner, had the Kid laid before him the third time; the poor Beast seeing that nothing would serve the turn, but that he must either eat up his chamber-fellow, or else his Master would make him continually fast, he ran and killed another Kid, disdainig to meddle with that which was his former acquaintance, yea though it were dead; herein excelling many wicked men, who do not spare those that have lived with them in the greatest familiarity and friendship, to undo and overthrow them alive for the advancement of themselves.

The harms of Panthers.

We have said already, that they most of all resemble Women, and indeed they are enemies to all creatures. The Leopards of *Barbary* do little harm to men that they meet, except they meet them in some path way where the man cannot decline the Beast, nor the Beast the Man, there they leap most fiercely into his face, and pull away as much flesh as they can lay hold upon, and many of them with their nails do pierce the brains of a man.

Leo. Afer. Albertus. Avicenna.

They use not to invade or force upon flocks of Sheep or Goats, yet wheresoever they see a Dog, they instantly kill and devour him. The great Panther is a terror to the Dragon, and so soon as the Dragon seeth it, he flyeth to his cave. The lesser Panthers or Leopards do overcome Wolves being single, and hand to hand as we say, but by multitude they over-master and destroy him, for if he endeavour to run away, yet they are swifter and easily overcome it.

Pliny. Orus.

There is also great hatred and enmity betwixt the Hyæna and the Panther, for in the presence of the Hyæna, the Pardal dareth not resist; and that which is more admirable, if there be a piece of an Hyænas skin, about either man or beast, the Panther will never touch it, and if their skins after they be dead be hung up in the presence of one another, the hair will fall off from the Panther; and therefore when the *Egyptians* would signifie how a Superiour was overcome by a Inferiour, they picture those two skins. If any thing be anointed with broath wherein a Cock hath been sodden, neither Panthers nor Lions will ever touch it, especially if there be mixed with it the juyce of Garlick.

The terror of Panthers.

Pliny. Rasis. Esculapius.

Leopards are afraid of a certain tree called *Leopardi-arbor*, Leopards-tree. Panthers are also afraid of the skull of a dead man, and run from the sight thereof: yet it is reported, that two year before the death of *Francis* King of *France*, two Leopards, a male and a female were let escape in *France* into the Woods, either by the negligence or the malice of their Keepers, that is, a male and a female, and about *Orleanse* tore in pieces many men and women; at last they came and killed a Bride, which was that day to have been married, and afterward there were found many carcases of Women destroyed by them, of which they had eaten nothing but only their breasts: Such like things I might expresse many in this place, whereby the vengeance of Almighty God against mankinde for many sins, might seem to be executed by the raging ministry of wilde, savage, and ungentle Beasts.

Laws against Panthers.

For this cause we read in ancient time how the Senators of *Rome* gave laws of punishment against them that should bring any Panthers into *Italy*, especially any *African* Beasts: and the first that gave dispensation against those laws was *Cneius Aufidius* the peoples Tribune, who permitted them for the sake of the *Circensian* games: and then *Staurus* in the office of his aedility brought also in an hundred and fifty: After him *Pompey* the great, four hundred and ten, and lastly *Augustus* that ever remem-

remembred and renowned Emperor, four hundred and twenty. Thus laws which were first made by great men and good Senators, for the safety of the common-wealth, became of no great value, because as great or greater then the Law-makers, had a purpose to advance themselves by the practise of those things which law had justly forbidden: for if those decrees had stood effectual, as the victorious Champions had lost that part of their vain triumphs, so many people had afterward been preserved alive, who by the cruelty of these Beasts were either torn in pieces, or else received mortal wounds.

It was not in vain that the blessed Martyr of Jesus Christ *Ignatius*, who was afterwards torn in pieces by wilde Beasts at *Rome*, did write thus in his Epistle to the *Roman* Christians concerning his handling by the *Roman* Souldiers, as he was brought prisoner out of *Syria* to *Rome*. *A Syria Romani usq; cum bestiis depu. no per terram & mare, die nocteque vincus cum decem Leopardis, hoc est cum militari custodia, qui ex beneficiis deteriores sunt.* From *Syria* (saith he) to *Rome* I have fought with Beasts, being night and day held in bondage by ten Leopards, I mean ten Souldiers, who notwithstanding many benefits I bestowed upon them, yet do they use me worse and worse: and thus much for the cruelty of Panthers and Leopards.

We have shewed already how they become tame, and are used in hunting, unto which discourse (somewhat out of the place) I will adde a true narration of two Panthers or Leopards nourished in *France* for the King, whereof one was of the bigness of a great Calf, and the other of a great Dog, and that on a day the lesser was brought forth for the King to behold how tame and tractable he was, and that he would ride behinde his Keeper upon a cloth or pillow being tyed in a chain: and if a Hare had been let loose in his presence, and he turned down to her, within a few jumps or leaps he would attain and take her. When the Keeper was to take up the Leopard again, he did come to him backward, lest if he should see his face, he should leap upon him and wound him, (for as we have said they are angry being chafed, and are ready to fly into the Hunters face) therefore he turneth his face away from him, and betwixt his legs reacheth him a piece of bread or flesh, and so he gently taketh him into his chain and collar again, leading him away to his house, and as soon as the man was mounted the Beast also knew his seat, and leaped up after him.

And the same party also related, that when as a Lion was turned forth to a Bull, the Lion very quietly without stirring lay down and did no harm, or offer any violence or combat with the Bull: but afterward when as the two Leopards were turned forth to the same Bull, they instantly ran and took the Bull by the throat, and without all doubt they had strangled and pulled out his throat, (had not their Keepers which had long chains tyed about their necks in their hands) restrained and pulled them off again. By this may be conjectured how great is the rage of the wilde and untamed Leopards and Panthers, seeing the tame and gentle are so cruel; and therefore the Lord in the Prophets did most wisely compare the siege of the *Assyrians* about *Jerusalem* to a Leopard, watching at the gates of the City to destroy all that came out thereat.

Having thus discoursed of the nature, parts, kindeness, love, and hatred of these Beasts in general, it now followeth to expresse the best means to avoid and destroy them, that so we may not only know our enemy, but also learn the way to overmatch and curb him.

There is a kinde of Henbane which is called *Pardalianches* or Libbard-bane, which the Inhabitants of *Phrynia*, and the Mount *Ida*, were wont to lay in the Mountains for the destroying of Leopards, Pardals, and Panthers. This herb is not much known at this day, yet I take it to be the same which groweth in many places of *France*, and *Savoy*, and it is called *Tora*, by the root thereof beaten to powder, and stopped up in flesh, not only Beasts, but also Wolves and Swine, as wilde Boars are destroyed if they tast thereof: when the Beast perceiveth himself poysoned, presently he seeketh for mans dung, for without that he cannot be delivered; wherefore the Hunters do also place near unto it some vessel of it hanging in a tree, with the mouth or way open that leadeth into it, whereinto the greedy Beast leapeth, and being in, cannot get forth again, but rather dyeth with hunger, or else is taken and killed; or else the vessel is hanged up so high, that the Beast by straining himself to leap into it, and get his desired medicine, (but all in vain) spendeth out the time of his recovery, till the poyson hath thoroughly corrupted his body, and every part and member, for otherwise so great is the life, spirit, and stomach of this Beast, that he will fight and not yeeld to his adversary, although his guts and intrails hang about his legs out of his belly.

Therefore the Panthers of *Hircania* do more often perish by poyson then by other violence of Swords, Spears, or Dogs: for by this poyson the Beast many times falleth to such a looseness of his belly, and withall such a weakness thereby, that he is taken alive. Likewise in *Armenia* there are certain Fishes which are poyson to Lions, Bears, Wolves, Lynces, and Panthers, the powder of this fish the Inhabitants put into the sides and flesh of their Sheep, Goats and Kys, without all harm to these beasts; but if the Panthers or any ravening Beast come and devoure any of those Sheep so dressed, presently they die by poyson.

When they are hunted and forced in the presence of the Hunters, then they leap directly unto their heads, and therefore the Hunter taketh great care both of his standing and also of holding his spear, for if he receive not the Panther in his leap, and gore him to the heart, or else otherwise wound him mortally, he is gone, and his life is at an end. *Oppianus* also sheweth, that he is taken as Lions are, especially by these means following; for when the Hunters perceive the way or path which he useth to his water, therein they make a deep ditch (but not so great as they make for a Lion) wherein they erect a wooden pillar or great post, unto that they tie certain engines, and

The nature of tamed Panthers.

The taking of Panthers.

Dioscorides.

Pliny.
Aristotle.

withall

withall a male little Dog, whose stones or tender cods they binde with some string or cord, so as the young beast may whine and cry for pain, by which voyce he inviteth and calleth the Panther to his destruction: For the greedy beast winding the voice of the Dog, bestirreth himself to meet with his desired prey or booty; at last finding the ditch, and seeing the Dog down, he leapeth, where the engins take present hold upon him and destroy him; and so he describeth the same means to take great fishes by the sight of little fishes swimming in a Net.

Oppianus.

In hunting of wilde beasts the wary Wood-man must make good choice of his Horse, not only for the metal and agility which are very necessary, but also for the colour, as we have already expressed in the story of the Horse: for the gray Horse is fittest for the Bear, and most terrible to him; the yellow or fire colour against the Bore; but the brown and reddish colour against the Panther.

The *Moors* also use other devises to take Panthers and all such noisome beasts, they enclose in a little house certain rotten flesh, which by the savour thereof when it stinketh, draweth the wilde beasts unto it: For they make a dore, or a gate of reeds unto the said house, through which the filthy smell breaketh out and disperfeth it self into the wide air; presently the wilde beasts take it up, and follow it with all speed they can, for there is not any Musk or other sweet thing wherewithal men are so much delighted, as ravening beasts are with the savour of carrion: therefore like an amorous cup it draweth them to the snare of perdition: for beside the rotten flesh, they erect many engins and unavoidable traps, to snare in the beast when he cometh to raven.

The Christians of *Africk* did institute a general hunting of Leopards, inclosing the ends of the ways through which the beasts were to pass: The Leopard when he was stirred ran to and fro distracted, because in all his passages he found Horse-men ready to resist him, neither left they any way for him to escape: at length wearied with many windings, turnings, and provocations, the Horsemens might easily come unto him and pierce him with their spears: but if it fortuneth that the Leopard escaped, and brake away from the Hunters; then he at whose corner he brake forth, was bound by ancient custome to make the residue a dinner or banquet.

Among the *Chaonians*, there was a certain young Nobleman which loved a Virgin called *Antippe*, the which two lovers were walking together a good season in a Wood; It happened while they were there, that *Cichyrus* the Kings Son prosecuted a Pardal in hunting, which was fled into that Wood, and seeing him, bent his arm against him and cast his Dart; the which Dart missed the mark and killed the Virgin *Antippe*, the young Prince thought that he had slain the beast, and therefore drew neer on Horse-back to rejoyce over the fall of the game, according to the manner of Hunters; but at his approach he found it far otherwise, for instead of the effusion of the blood of a beast, (that which was more lamentable) his right hand had shed the blood of a Virgin: For when he came to them he saw her dying and drawing her last breath, and the young man held his hand in the wound to stanch the blood: for sorrow whereof he presently fell distracted in his minde, and ran his Horse to the top of a sharp Rock, from whence he cast down himself headlong and so perished.

The *Chaonians* after they understood this fearful accident, and the reason of it, compassed in the place where he fell with a wall, and for the honour of their dead Prince builded a City where he lost his life, and called it *Cichyrus* after his own name.

Their love of Wine.

Leopards and Panthers do also love Wine above all other drink, and for this cause both *Bacchus* was resembled to them, and they dedicated to him: *Bacchum tauro assimilant & Pardali, quod homines ebrii belluarum istarum ingenia referant, & omnia violenter agant, quidam enim iracundi sunt Taurorum instar, & pugnaces feriq; ut Pardales*, saith *Plato* in his second Book of laws, they resemble and compare *Bacchus* to a Bull, or Pardal, because drunken men in all their actions do imitate the disposition of these wilde beasts, both in their folly and violence: For some of them are wrathful like Bulls, and some of them wilde apt to fight, like Pardals: *Bacchus* was also called *Nebrides*, because he wore the skin of a Hinde-calf, which is spotted almost like a Panther: and therefore a fearful man, or a drunken, variable and inconstant man, is said to wear a skin of divers colours, but the chief cause why Panthers were dedicated to *Bacchus*, was for their love of Wine; for all Writers do constantly and with one consent affirm, that they drink Wine unto drunkenness: the manner and end thereof is elegantly described by *Oppianus* in this sort: When the Inhabitants of *Lybia* do observe some little fountain arising out of the sand, and falling down again, (as in the manner of small Springs which cannot encrease into great Rivers) whereat the Panthers and Pardals use to drink early in a morning, before it be light; after they have been at their prey in the night time, the Hunters come and pour twenty or thirty pitchers of old sweet Wine into the said Fountain, then a little way from it they lie down and cover themselves with clothes, or with straw, for there is no shelter either of tree or bushes in that Countrey.

In the morning the Panthers ardently thirsting, and being almost dead for want of drink, come unto the same fountain, and tasting of the Wine drink thereof great abundance, which presently falleth to work upon their brains, for they begin first of all to leap and sport themselves, untill they be well wearied, and then they lie down and sleep most soundly, at which time the Hunters that lye in wait for them, come and take them without all fear or perill: Thus far *Oppianus*.

Use of their parts.

Concerning the use of their several parts, I finde little among the ancients, except of their skins, for the foot-men and ancient Souldiers of the *Moors* did not only wear them for garments, but also slept

slept upon them in the night time. The Shepherds of *Æthiopia*, called *Agriophagi* do eat the flesh of Lions and Panthers, although it be hot and dry.

The Medicines of the Panther, or Leopard.

If the skin or hide of a Leopard being taken and flead, be covered or laid upon the ground, there is such force and vertue in the same that any venomous or poysonsome Serpents dare not approach unto the same place where it is so laid. The flesh of a Panther being roasted or boiled at the fire, and smelled by any one which is troubled with the Palsie, or shaking in the joynts, as also by them which are troubled with the beating and continual moving or turning of the heart, is a very profitable and excellent remedy for the same. Avicenna.
Albertus.

The same fat or sewer of a Leopard being mixed or mingled with the Oyl which proceedeth from the Bay-tree, and then mollified both together, and so anointed upon any one which is troubled with the scurfe or mangy, the scabs whereof doth cut or pierce the skin, doth presently and without any grief or pain cure the same. The twigs of a Vine-tree being dried and beaten into small dust or powder, and mingled together with the fat or grease of a Leopard, and so anointed upon the face of any one who is grieved with akings and swelling thereon, will not only cure and heal the same without any pain or sorrow, but also preserve the same free from blemishes in the time of healing. The grease also of a Leopard by it self, being anointed upon the head of any one who doth shed or cast his hair, or is troubled with the Foxes evill, doth immediately help and cure the same. The blood of a Panther being anointed upon the veins or sinews of either man or woman who is grieved with any swelling or akings therein, is very profitable and curable to expel the same away. The brains of a Leopard being mingled with a little quantity of the water which is called a Canker, and with a little Jasmine, and so mixed together and then drunk, doth mitigate the pain or ach of the belly. The brains of the same beast being mixed with the juyce of a Canker, and anointed upon the genital of any man, doth incitate and stir him up to lechery, but the marrow which cometh from this beast, being drunk in Wine doth ease the pain or wringing of the guts and the belly. The gall of a Panther being received into the body either in meat or drink, doth instantly and out of hand kill or poyson him which doth so receive it. The right stone of a Leopard being taken of a woman of a far spent age, doth restore unto her, her menstrual purgation being ceased, and doth make her to purge, if she doth heartily receive her meat more often. Rafis.
Arctem.
Galen.

Of the POEPHAGUS.

There is a beast in *India* called *Poephagus*, because he feedeth upon herbs and grasse like a Horse, whose quantity he doth exceed double, for he is twice so big, his tail is most thick and black, the hairs whereof are thinner then the hairs of a mans head: and therefore *Indian* women make great account of them, for with them they binde up their own hair, platting it, and folding it in curious manner, every hair is two cubits in length, and upon one root twenty or thirty of them grow together: this great beast is one of the fearfullest creatures in the world; for if he perceive himself to be but looked at of any body, he taketh him to his heels as fast as he can go, and yet although his heart be light, his heels be heavy, for saith my Author, *Magis studiose quam celeriter fugam peragit*. That is, He hath a good will to run apace, but cannot perform it: but if he be followed upon good swift Horses, or with nimble Dogs, so as he perceiveth they are near to take him, and he by no means can avoid them, then doth he turn himself, hiding his tail, and looketh upon the face of the Hunter with some confidence, gathering his wits together, yet in fearfull manner, as it were to face out his pursuer or hunter, that he had no tail, and that the residue of his body were not worth looking after: but while he standeth staring on his Hunter, another cometh behinde him and killeth him with a Spear, so they take off the skin and tail, and throw away the flesh as unprofitable, for the other recompense their labour for their pains. *Volaterranus* relateth this a little otherwise, and saith that the beast biteth off his own tail, and so delivereth himself from the Hunter, knowing that he is not desired for any other cause. Ælianus.

Nicolaus Venetus an Earl, writing of the furthest part or Province of *Asia*, which he calleth *Macedonum*, and I think he meaneth *Serica*, because he saith it lyeth betwixt the Mountains of *India* and *Cathay*, there are a generation of white and black Oxen which have Horses tails, but reaching down to their heels, and much rougher. The hairs whereof are as thin as the feathers of flying birds, these he saith are in great estimation; for the Knights and Horsemen of that Countrey do wear them upon the top of their lances and spears for a badge or cognizance of honour, the which I thought fit to be remembred in this place, because I take them to be either the same with these *Indian* beasts, or very like unto them. Æne. Silv.

The *Porcupine* or *Porcupine*.

I cannot learn any name for this Beast among the Hebrews, and therefore by probability it was unknown to them: The Grecians call it *Acanthoceros* and *Hystrix*, that is, *sus setosa*, a hairy, or bristly, or thorny Hog, for their quills which they bear upon their back, are called both *Pili*, *filii*, *pinne*, *aculei*, and *spine*, that is, both hairs, bristles, rough hair, pins, prickles, and thorns. The Arabians call it *Adaldull*, and *Adualbul*, *Adubul*, *Adulbus*, and some *Aherba*, which by Avicen and his Glossographer, is defined to be *Montanus Ericius habens spinas sagittales*, an Hedgehog of the Mountain, having quills or thorns upon his back which he shooteth off at his pleasure. The Grecians at this day call it *Seanzocheros*, which is derived or rather corrupted of *Acanthoceros*. The Italians call him *Porco-spinoso* and *Histice* or *Istrix*, without an Aspiration; the Spaniards, *Puercoespín*; the French, *Porc-épic*; the Illyrians, *Porcospino*, and *Morska szwinia*, imitating therein the Germans, which call a Sea-hog, *Ein Meer-schweyn*: The Germans in some places call it *Laran*, and in other places *Dornschweyn*, that is a Thorny-hog, by a feigned name in imitation of other Nations, and also *Porcopick* following the Italians, Spaniards, French, English, and Illyrians: I will not stand to confute them, who write that this Beast is a Sea-beast, and not a Beast of the land, nor yet those that make question whether it be a kinde of Hedge-hog or not, for without all controversie, as the Arabians, Pliny, Albertus, Bellonius, and other do affirm, the vulgar Hedge-hog, is *Ericius Sylvestris*, and the Porcupine *Ericius Montanus*.

These are bred in India and Africk, and brought up and down in Europe to be seen for money: Likewise about the City Cassem in Tartaria, by the sight of one of these it appeared, that it was three foot long, the mouth not unlike to a Hares, but with a longer slit or opening: so also the head of the same similitude, the ears like to the ears of a man; the fore-feet were like the feet of a Badger, and the hinder-feet like the feet of a Bear: it hath a mane standing up in the upper part right or direct, but hollow or bending before: Upon the bunches of his lips on either side of his mouth, there groweth forth long black bristles. The general proportion of his body is like a Swines, and they never exceed the stature of a Swine of half a year old.

The four formost teeth hang over his lips, and that which is most admirable in him, the Quills or Thorns growing upon his back in stead of hair, he useth for hands, arms, and weapons. The quills and spears.

They first grow out of the back and sides, which are of two colours, that is partly black, and partly white, which whensoever he pleaseth, he moveth to and fro like as a Peacock doth his tail: they grow in length two, three, or four hands breadths, they stand not in any confused order of colours, but in well formed distinguished ranks, being sharp at the points like a knife: When they are hunted the Beast stretcheth his skin, and casteth them off, one or two at a time, according to the necessity upon the mouths of Dogs, or legs of the Hunters that follow her, with such violence, that many times they stick into trees and Wood, wherefore Solinus writeth thus, and also Paulus Venetus; *Cum capiuntur, spinis suis saepe homines, & canes ledunt: nam canes in eos provocati, adeo irritant feras illas, ut simul concurrentes terga sua quibus spina innituntur vehementer commoveant, atque in viciniores homines, & canes vibrent.* That is to say, When they are taken they many times hurt both Dogs and men, for when the Dogs being provoked by them, run upon the backs which bear the quills, they are so far stirred, that they cast them off upon all that stand near them, and therefore they fight flying.

The Hunters to save their Dogs do devise engines and traps wherein to take them; besides the quills that grow upon their backs, they have also some upon their heads and necks, which they never cast off, but keep them on as a Horse doth his mane. The pilgrims that come yearly from Saint James of Compostella in Spain, do bring back generally one of these quills in their Caps, but for what cause I know not. The pace of this Beast is very slow and troublesome unto it, and therefore it is hardly drawn out of his den, which it diggeth like a Badger, from which it never goeth far, but feedeth upon those things which are near unto it: It is a filthy Beast, smelling ranck because it liveth so much in the earth, being wilde it never drinketh, and I think it eateth Apples, Roots, and rindes of trees, and peradventures Snail, and such reptile creatures, but being tamed, it eateth all kinde of fruit, likewise bread, Pie-crust, and such things broken small. It drinketh also water, but above all other, Wine mingled with water: In the day time it sleepeth, and in the night time it waketh, by which we gather, that being wilde it feareth the light, and therefore travelleth in the night time for his meat and living. It is a general live creature, and begetteth other in his own kind: the female bearing the young ones in her belly, as long time as a Bear, that is, thirty days; and also it hideth it self four moneths in the Winter time, like a Bear, but whether for cold or any other cause the Authors do not expresse.

In my opinion for cold rather than for any other reason, although there be some that affirm it lyeth hid in the Summer time, and cometh abroad in the Winter time, contrary to the course of all other Beasts, and therefore such a Paradox doth want the testimony of some credible Writers, which should affirm it upon their own experience, or else it were requisite to bring sufficient reasons to lead their Readers to believe it, but neither of both is discharged by them, and therefore it is safer for us to follow Aristotle and Pliny, who hold the first opinion, then Albertus and Agricola who incline to the later. In all other things, both of their lying hid, of their procreation, of the coming out of their cave and nourishing their young ones, they imitate the manners and conditions of Bears.

The use of the
flesh, and other
parts.

Concerning the use of their parts, I finde none but only of their quills, for with them it is said, if men scrape their teeth they will never be loose, likewise women were wont in ancient time to use them for parting asunder their hair in the top of their crowns.

The flesh of this Beast is like a Hedge-hog, neither very natural for meat and nourishment, nor yet very medicinable: yet it is said to help a weak and over-burthened stomach, to procure looseness of the Belly, and to diminish all Leprosies and scabbed Exulcerations and pustules: Being salted it is good against the Dropsie, and also very profitable, as *Platina* writeth, to be eaten by them that cannot contain urine in their beds: yet the *Grecians* attribute no such quality unto this, but to help the stomach and loosen the belly, they attribute to the Sea-hog, and against the leprosie, scabs, and incontineny of urine to the Hedge-hog, but peradventure the saying of *Pliny*, (*Qua de Herinaceis dicuntur omnia tanto magis valebunt in Histrice*) leadeth them to attribute these things to the Porcupine. The powder of their quills burnt, drunk or eaten in meats or broth, doth promote and help conception: Thus saith *Avicen*, and herewithall I conclude this short discourse of the Hedge-hog.

Of the Keyner, or Rainier.



Of the several
names.

This Beast is called by the *Latines*, *Rangifer*; by the *Germans*, *Rein*, *Reiner*, *Raineger*, *Reinsither*; by the *French*, *Raingier*, and *Ranglier*; and the later *Latines* call it *Reingus*. It is a Beast altogether unknown to the ancient *Grecians* and *Latines*, except the *Ma-chlis* that *Pliny* speaketh of be it: But we have shewed already in the story of the Elk, that *Alcer* and *Mblis* are all one. This Beast was first of all discovered by *Olaus Magnus*, in this Nor-

Northern part of the world, towards the pole Artique, as in Norway, Swedia, Scandinavia, at the first sight whereof he called it *Raingifer*, quasi *Ramifer*, because he beareth horns on his head like the boughs of a tree. The similitude of this Beast is much like to a Hart, but it is much bigger, stronger, and swifter. It beareth three orders or rows of horns on the head, as by the direction of *Valentinus Cravus*, and *Benedictus Martinus* are here expressed.

This Beast changeth his colour according to the time of the year, and also according to the quality of the place wherein he feedeth, which appeareth by this, because some of them are found to be of the colour of Asses, and shortly after to be like Harts. Their breast is full of long bristles, being rough and rigid through the same. The legs hairy, and the hoofs hollow, cloven, and moveable, which in his course he spreadeth abroad upon the deepest snows, without pressing his footsteps far into them: and by his admirable celerity he avoideth all the wilde Beasts which in the Vallies lie in wait to destroy him. He beareth very high and lofty horns, which presently from the root branch forth into two stems or pikes, I mean both the horns severally into two, which again at the top disperse themselves into pikes like the fingers of ones hand; In the middle of the horns there is a little branch standeth out like a knob, or as a huckle in the hinder-part of a Beasts leg, from whence again they ascend upwards a great height, and do grow abroad at the top, where they are divided like the palm of a hand.

The colour and several parts.

The horns are white, distinguished with long apparent veins, differing both from the horns of Elks, and the horns of Harts, from Elks in height, and from Harts in breadth, and from them both in colour and multitude of branches: When he runneth he layeth them on his back, for when he stands still, the lowest branches coming forth of the roots of the horns, do almost cover his face with these lower branches.

In the Winter time when he is athirst, and cometh to the frozen waters he breaketh the ice: being wilde he liveth upon such fruits as he findeth in the Woods, especially the gum that cometh out of the Trees, and also the moss that groweth upon them, making himself shadowed dens and retting places in the Mountains: but in the deepest cold weather he cometh into the Mountains of Norway, towards *Mosiberg*, and other hills. He is taken by the Countrey people for private uses, for he is profitable after he is tamed, both for the plough and travails in journies. The people called *Lappi*, or *Lappones*, do use them in stead of Horses and Oxen, for they have a kinde of Cart made in form and fashion of a fishers boat whereunto they join these Beasts to draw them, and the Carter hath a convenient seat fitted for him on the fore-part thereof, wherein he sitteth with his legs fast tyed to the Cart, to the intent he be not cast off when the Beast runs speedily: he carryeth the reins whereby he governeth them in his left hand, and in his right hand a staffe, wherewithall he sustaineth

The use of their lowest horns.



the Cart when it is in danger of falling, and in this course they will continue indefatigably twenty German miles a day which is more then threescore English miles. At night when the Beasts are unyoaked, of their own accord, without guide or leader they will go to their feeding places, or accustomed stables. It is a very sociable creature, for they do live together in herds above a thousand in a flock, whereunto it may be the Lord alluded in the 50. Psalm, when he said by the mouth of *Asaph*, *All the Beasts of the field are mine, and the flocks of thousands which run wilde on the hills.* The females want horns, and their milk is the greatest part of food to those Northern people: they have been seen at *Auspurge* in Germany saddled and bridled, for in their travails they need not have any provender carryed with them, for if ye turn them out in the midst of the Winter, they finde certain roots and moss under the snow whereof they eat, and content themselves.

Their best food is grafs. They are used both in *Muscovia*, *Polonia*, *Bohemia*, *Scandinavia*, and *Maffovia*, yet they can endure no heat, for being brought into *Bohemia* they dy.

Their Carts which they draw must be made with a sharp edge at the bottom like a boat or ship as we have said already, for they are not drawn upon wheels, but like drays and sleds upon the earth. There was a *Lapponian* which brought one of these into *Germany* in *December*, & he professeth he never felt so much heat of the Sun in all his life, as he did at that time, which is our coldest time in the year, and therefore how great is the cold which both men and Beasts endure in that Countrey?

The horns of these Beasts are to be seen both in *Berne* and at *Auspurge* in *Germany*; the feet are somewhat white, being rounder then a Harts feet, and more cloven or divided, wherefore at some times one part of his hoof may be seen upon a stone, while the other part resteth upon the earth, and in the upper part of the hoof where it beginneth to be cloven near the leg, there is a certain thick skin or membrane, by vertue whereof the foot may be stretched in the division without harm or pain to the Beast.



The King of *Swetia* had ten of them nourished at *Lappa*, which he caused every day to be driven unto the Mountains into the cold air, for they were not able to endure the heat. The mouth of this Beast is like the mouth of a Cow, they many times come out of *Laponia* into *Swetia*, where they are wonderfully annoyed with Wolves, but they gather themselves together in a ring, and so fight against their enemies with their horns. They are also in their own natural Countrey annoyed with Gulons, and generally all Beasts that live upon the spoil of flesh, are enemies unto them, and desire to destroy and eat them. In their pace, both slow and speedy, the articles of their legs make a noise like the cracking of Nuts. There was one of these Beasts given unto the Duke of *Saxony*, in the year of our Lord 1561. In *Scandivania* they use them for the carriage of metals, drawing of Chariots and riding, and the nerves of them when they are dead make bows, and for want of nails, they do fasten planks and boards together.

Of the RHINOCEROS.

A preface to
the succeeding
story.

WE are now to discourse of the second wonder in nature, namely of a Beast every way admirable, both for the outward shape, quantity, and greatness, and also for the inward courage, disposition and mildness. For as the Elephant was the first wonder, of whom we have already discoursed; so this Beast next unto the Elephant filleth up the number, being every way as admirable as he, if he do not exceed him, except in quantity or height of stature; And being now come to the story of this Beast, I am heartily sorry, that so strange an outside, as by figure you may perceive, yeelding no doubt through the Omnipotent power of the Creator, an answerable inside, and infinite testimonies of worthy and memorable vertues comprized in it, should through the ignorance of men, lie unfolded and obscured before the Readers eyes: for he that shall but see our stories of the Apes, of the Dogs, of the Mice, and of other small Beasts, and consider how large a treatise we have collected together out of many Writers, for the illustration of their natures and vulgar conditions, he cannot chuse but expect some rare and strange matters, as much unknown to his minde about the story of this Rhinoceros, as the outward shape and picture of him, appeareth rare and admirable to his eyes: differing in every part from all other Beasts, from the top of his nose to the tip of his tail, the ears and eyes excepted, which are like Bears. But gentle Reader, as thou art a man, so thou must consider since *Adam* went out of *Paradise*, there was never any that was able perfectly to describe the universal conditions of all sorts of Beasts; and it hath been the counsel of the Almighty himself, for the instruction of man, concerning his fall and natural weakness, to keep him from the knowledge of many divine things, and also humane, which is of Birds and Beasts, Fishes and Fowl, that so he might learn the difference betwixt his generation, and his degeneration, and consider how great a loss unto him was his fall in *Paradise*; who before that time knew both God himself and all creatures; but since that time neither knoweth God as he should know him, nor himself as he shall know it, nor the creatures as he did know then.

But



Of the S H E E P.

The several
names.

THe Hebrews have divers names, whereby they signifie a Sheep, and all that kind, as *Zon*, and *Zoneth*, for which the *Septuagins* do always render *Probata*, Sheep or little Cattell. The *Arabs*, *Genas*. The *Chaldeans*, *Ana*. The *Persians*, *Gospand*, also *Rachel* in Hebrew; the plural whereof is *Rechelim*, which signifieth Sheep: *Kebesch*, and *Kabsa*, or *Kibsa*, Isa. 53. *Tabel*, *Nebelamab*, that is, a dumb Sheep, where the Hebrews have *Rachel*, there the *Chaldees* translate *Rachlak*. The *Arabians*, *Akalak*. The *Persians*, *Comefchan thu*. *Kebes* and *Kibsa* signifie a Sheep, male and female under a year old, and *Aiil*, and *Eel*, for a Sheep above a year old, male and female. In *Levit. 22*, the *Chaldees* translate for *Kebii*, *Imar*. The *Arabians*, *Egel*. The *Persians*, *Bara*, and *Keseb* in Hebrew is the same that *Kebesch*. *Seh* also signifieth a Sheep, although it be sometime taken for a Lamb or Kid. Likewise *Thaleb* and *Theleh* *Esaï. 40.* signifieth a Lambe that sucketh. And *Epiphanius* writeth, that by the same word the Hebrew Astronomers signifie the sign *Aries* in the *Zodiack*. The *Sarazens* at this day call a Sheep *Ganeme*, and Cattle *Garien*, and the dung of Cattle *Hara Garien*. The *Grecians* call a Sheep *Ovis*, and *Probaton*; the *Latins* *Ovis*, and by excellency *Pecus*; the *Italians*, *Pecora*, the *French*, *Brebis*; the *Spaniards*, *Oveja*; the *Germans*, *Schaff*; the *Irishians*, *Oweze*, or *Skop*. These and such like I might add more concerning the names of this Beast, and the abundance of the names thereof in the Hebrew tongue, is a notable testimony of the singular account which God himself made of this beast. The *Latines* have so honored it that after it they have named many of their children, and stories make mention of most noble and gallant men, so called. Such was *Ovinus Camillus*, *Severus Ovinus*, *Fabius Maximus Oviculus*, *Oileus*, *Oileus Ajax*, *Oie*, the wife of *Charippus*, and many such other, if it were necessary to this story to relate them, but I will not trouble the Reader with any such unnecessary circumstances. I will therefore first of all begin with a relation of the Sheep of other Countries, and so in the end make a more particular discovery of our own at home. For the difference of Regions do very much enlighten the description or history of Sheep. It is reported that about *Erythrea*, one of the Islands of the *Gades*, there is such abundance of good pasture and Hearbs so gratefull to Sheep, that if they be not let blood once in thirty dayes, they perish by suffocation, and that the milk of those Sheep yeeldeth no whay, wherewithall they make abundance of Cheese, although they powre water into it. The herbage of that Island is dry, yet profitable to Cattle and milch Beasts, and from thence came the original of the fat Cattell of *Geryon*. The Sheep of *Grecia* are lesser then the Sheep of *Egypt*, and the *Ovis Pyrrhica*, were like *Boves Pyrrhica*, namely, of exceeding stature, which name was derived from *Pyrrhus* their master and owner. Among the *Persians* in *India*, their Rams are greater then our Lambs, and *Aechilades* in his books of husbandry affirmeth, that the Sheep of the Isle *Chios*, are very small, and yet their Milk maketh very laudable Cheese. In *Spain* their best Sheep have black fleeces: at *Polentia*, neer the *Alpes*, they are gray or hony-woolled: in *Asia* and *Bætica*, called *Erythrea*, they are red like Foxes, and from thence came the term of *Erythrae Oves*. At *Canusium* the Sheep are yellow, or Lion-tauny, and so also at *Tarentum*. *Istria* and *Liburnia* yeeld Sheep having wooll which is so course and rough, that it may rather seem to be hair then wooll, and therefore never fit for fine garments, nor for any other use, except by the singular art of spinning in *Portugal*. And the like to this is the wool of the Sheep of *Piscene*, and in *Egypt*, of which latter it is said, that if it be dyed again after it is thread-bare, it will endure almost for ever. For the antients (as *Homer* writeth) had the use hereof (although the thread were rough) in their works of Tapestry, and this was dressed divers wayes, for the *French* in *Europe* dresse it one way, and the *Parthians* in *Asia* another way.

The descrip-
tion of di-
vers
kinds of Sheep
according to
their Country.
Strabo.

The Sheep of *Apulia* gave the name to *Lana Italica*, for excellent wool, and yet was it short and course, good for nothing but for clokes to ride in, and wear in rainy weather: unto these I may add the *Catlabrian*, *Milesian*, and *Arentinean* Sheep, yet in the dayes of *Varron* they covered their Sheep with other skins to keep the Wool both from losse, and other infection, so that it might be the better washed, dyed, and prepared, for these were nourished most of all in houses.

The *French* Sheep about *Alinas*, and also those that are scabbed are folded in the plain and barren fields of *Parma* and *Mutina*. The Sheep of *Helvetia* feed in the tops of the Mountains, whiles the Goats keep beneath among the trees and gather fruits on the sides of the hills. The *Flemish* Sheep have a soft and curled hair.

There be in general two kinds of Sheep, one called *Tectum*, the other *Colonicum*, as if you would say house-sheep, and field-sheep, for the *Grecian* Sheep which before we have called *Tarentine*, and were also called *Tarintine*, because of their soft wool, lived in houses, and they were also called *Pelite*, but the field sheep having by nature a greater, courser, and rougher hair, are suffered to lodge abroad in the fields.

Likewise the Sheep of *Miletum* and *Attica*, and the region *Gadiloneæ*, reaching to *Armenia*, have very soft and gentle wool, which thing seldom cometh to passe in *Pontus*, or *Cappadocia*. In *Scotland* also in a place thereof, called by *Hector Boethius* *Buthugubania*, are great store of Sheep, bearing good wool, from whence almost all that Countrey fetch their breed. The Sheep of *Ethiopia* bear no wool at all, but in stead thereof their hair is rough like Camels hair. Amongst the *Abidenes*, and the *Beudiani*, both *Ælianus* and *Nicomachus* the Son of *Aristotle* do testifie, that all their Sheep are black, and that there was never white Sheep bred in those Countries. In *Gortynia* their Sheep are red and have four horns: In the fortunate Islands of the red-sea all their Sheep are white, and none of

of them have crooked horns. In *Bestia* there are four Rivers which work strange effects upon Sheep after they drink of them; namely, *Melas*, *Cephisus*, *Penius*, and *Xanthus*. The Sheep drinking of *Melas* and *Penius* grow black, of *Cephisus* white, and yet *Pliny* saith, that this River cometh forth from the same fountain that *Melas* doth. They which drink of *Xanthus* grow red: I might adde hereunto another special observation of difference betwixt the Sheep of *Pontus* and *Naxos*, for in *Pontus* they have no gaul, and in *Naxos* they have two gauls.

In some parts of *India* their Sheep and Goats are as big as Asses, and bring fourth four Lambs at a time, but never less then three, both Sheep and Goats. The length of their tails reacheth down to their hinder-legs, and therefore the Shepherds cut them off by the secrets; to the intent that they may better suffer copulation, and out of them being so cut off, they express certain Oyl; also they cut asunder the tails of Rams, the ends whereof do afterwards close so nearly and naturally together, that there appeareth not any scar or note of the section. In *Syria* and *India*, the tails of their Sheep are a cubit broad.

There are two kinde of sheep in *Arabia*, which are distinguished by the length and breadth of their tails: the one sort have tails three cubits long, by reason whereof they are not suffered to draw them on the ground for fear of wounding; and therefore the shepherds devise certain engines of wood to support them: the other kinde of sheep have tails like the *Syrian* sheep. All sheep that live in hot and dry Regions have larger tails, and harsher wooll, but those that live in the moist Regions and salt places, have softer wooll and shorter tails. There were two of the *Arabian* Sheep brought into *England*, about the year 1560. whose pictures were taken by Doctor *Cay*, and therefore I have expressed them here with their description.

The Arabian Sheep with a broad tail.



The Arabian Sheep with a long tail.



THis *Arabian* Sheep (said he) is a little bigger then our vulgar Sheep in *England*, but of the same wooll, figure of body, and colour, only the shins, and fore-parts of their face, are a little red: the broad tail in the top was one cubit, but lower it was narrower, and like the end of a vulgar Sheeps tail. They being brought on ship-board into *England*, were taught through famine and hunger to eat not only grasse and hay, but flesh, fish, bread, cheese, and butter.

Hero-

Herodotus saith, that such kinde of Sheep are no where found but in *Arabia*: the long tailed Sheep he calleth *Macrokerkos*, and the broad tailed Sheep *Plateukercos*: yet *Leo Afer* saith, that these are of the *African* Sheep, for thus he writeth: *His arietibus nullum ab aliis discrimen est, præterquam in cauda quam latissimam circumferunt, quæ cuiq; quo opimior est, crassior obtigit, adeo ut nonnullis libras decem, aut vigintipendat, cum sua sponte impinguntur.* There is no difference betwixt these Rams and other, except in their broad tail, which evermore as it grows in fatness groweth in breadth, for if they fat of their own accord, it hath been found that the tail of one of these Sheep have weighed ten or twenty pound, and not only there, but also in *Egypt*, where they cram and feed their Sheep with Barly, Corn, and Bran: by which means they grow so fat, that they are not able to stir themselves, so that their Keepers are forced to devise little engins like childrens Carts, whereupon they lay their tails when they remove their Beasts: and the same *Leo Afer* affirmeth, that he saw in *Egypt* in a Town called *Asiota*, standing upon *Nilus*, a hundred and fifty mile from *Alcair*, a tail of one of these Sheep that weighed fourscore pound, and whilest he wondred at it, scarcely believing that which his eyes saw, there were some present, that affirmed it to be an ordinary thing, for they said according as he writeth; *Se vidisse quæ semi ducentas libras expendissent*: That is, they had seen some of them weigh a hundred pounds: and except in the Kingdom of *Tunis* in *Africk*, and *Egypt*, there are none such to be found in all the world, and by it, it appeareth, that all the fat of their bodies goeth into their tails. Among the *Garamants* their Sheep eat flesh and milk, and it is not to be forgotten which *Aristotle*, *Dionysius*, *Afer*, and *Varro* do write, namely, that all Sheep were once wilde, and that the tame Sheep which now we have, are derived from those wilde Sheep, as our tame Goats, from wilde Goats: and therefore *Varro* saith, that in his days in *Phrygia* there were flocks of wilde Sheep, whereof as out of *Africk*, and the Region of the *Gadites*, there were annually brought to *Rome* both males and females, of strange and admirable colours, and that his great Uncle bought divers of them and made them tame: But it appeareth that these wilde Sheep or Rams were Musmons, of which we shall discourse afterwards: For wilde Sheep are greater then the tame Sheep, being swifter to run, stronger to fight, having more crooked and piked horns, and therefore many times fight with wilde Boars and kill them.

Flocks of
wilde sheep.

Oppianus.

The *Subus* doth also appear to be a kinde of wilde Sheep, for after that *Oppianus* had discoursed of the Sheep of *Creet*, he falleth to make mention of the *Subus*, which he saith is of a very bright yellow colour like the Sheep of *Creet*, but the wooll thereof is not so rough, it hath two large horns upon the fore-head, living both on the water and on the land, eating fish, which in admiration of it in the water gather about it, and are devoured, as we shall shew afterwards in his due place. The *Colus* also spoken of before, and called Snake, seemeth to be of this kinde, for it is in quantity betwixt a Sheep and a Hart. It hath no wooll, and when it is hunted, the Hunters use neither Dogs nor other Beasts to take it, but terrifie it with ringing of little bells, at the sound whereof it runneth to and fro distracted, and so is taken: And thus much I thought good to expresse before the general nature of Sheep, of the divers and strange kinds in other Nations, that so the studious Reader may admire the wonderful works of God, as in all Beasts, so in this, to whom in holy Scripture he hath compared both his Son and his Saints: and for as much as their story to be mingled with the others, would have been exorbitant and far different from the common nature of vulgar Sheep, and so to have been mixed amongst them, might have confounded the Reader: It was much better in my opinion to expresse them al together, and so to proceed to the particular nature of vulgar Sheep.

The several
parts of sheep.

And first of all the description of their outward parts: the Sheep ought to be of a large body, that so their wooll may be the more, which ought to be soft, deep, and rough, especially about the neck, shoulders, and belly, and those that were not so the ancient *Græcians* called *Apoki*, the *Latines*, *Apise*, that is, peild Sheep, for want of wooll, which always they did reject as unprofitable for their flocks: for there is no better signe, as *Pliny* saith, of an acceptable breed of Sheep, *Quam crurium brevitæ, & ventris vestitus*. The shortness of the legs, and a belly well clothed with Wooll.

The female to be admitted to the male after two years old. Till they are five year old they are accounted young, and after seven unprofitable for breed. In your choice of Sheep evermore take those which are rough with wooll even to their eyes, without any bald place upon them, and those females which bear not at two year old utterly refuse, avoid likewise partly coloured or spotted Sheep, but choose them that have great eyes, large tails, and strong legs: let them be young also, and of breed, *Nam melior est ea ætas, quam sequitur spes, quam ea quam sequitur mors, & probata est progenies, si agnos solent procreare formosos* (saith *Petrus Gresce*.) that is, that age is better which hope followeth, then that which death followeth: and it is a good breed of Sheep which bringeth forth beautiful Lambs. And concerning their Wooll, it is to be observed, that the soft wooll is not always the best, except it be thick withall, for Hares have soft but thin wooll, and in Sheep it ought to be contrary, and therefore the most fearful have the softest hair, the Sheep of *Scythia* in the cold Countries have soft wooll, but in *Sauromatia* they have hard wooll. *Florentinus* prescribeth, that the fine wooll of a Sheep is not curled, but standeth upright, for he saith, that curled wooll is easily corrupted or falsified.

The head of the Sheep is very weak; and his brain not fat; the horns of the female are weak if they have any at all, for in many places they have none, like Hindes, and in *England* there are both males and females that want horns: And again the Rams of *England* have greater horns then any other Rams in the world, and sometimes they have four or six horns on their head, as hath

hath been often seen. In *Africk*, their male-sheep or Rams are yeared with horns, and also their females: and in *Pontus* neither males nor females have ever any horns.

Their eyes ought to be great, and of a waterish colour, and all Beasts that want hands have their eyes standing far distant on their heads, especially Sheep, because they had need to look on both sides, and because they are of a simple and harmless disposition, as we shall shew afterwards: for the little eye, such as is in Lions and Panthers, betoken craft and cruelty: but the great eye, simplicity and innocency. Their teeth stand in one continued row or bone, as in a Horse, but in the upper chap there are no fore-teeth: the male having more teeth than the female.

There be some that write, that *Virgil* calleth Sheep *Bidentes*, because they have but two teeth, but they do it ignorantly, for we may read in *Servius*, *Nigidius* and *Nonius*, that Boars are called *Bidentes*, and all Beasts of two years old for they were first of all called *Bidenes quasi Biennes*, by interposition of the letter D, according to the other words, as we do not say *reire*, but *redire*; nor *reamare*, but *redamare*; nor *reare*, but *redare*; and so *Bidenes* for *Biennes*, because sacrifices were wont to be made of Sheep when they were two years old. If ever it happen that a Sheep have but two teeth, it is held for a monster, and therefore a Sheep is called *Ambidens*, and *Bidens*, because he hath teeth both above and beneath. The belly of a Sheep is like the belly of a Beast that chews the cud. The milk proceedeth from the ventricle or maw. The flanks hang down to the hinder-legs. The females have their udders betwixt their thighs, like to Goats and Cows: some of them have galls, according to the ordinary custom of nature, and some of them have none at all, for in *Pontus* where by reason they eat Wormwood they have no gall. Likewise in *Calais*: some we have shewed have two galls, and the *Scythia* Sheep have galls at one time, and not at another, as *Aliaius* writeth, for he saith in the very cold Countries, when snow and winter covereth the earth, there Sheep have no galls, because they keep within doors, and use no change of meat, but in the Summer when they go abroad again to feed in the fields, they are replenished with galls.

There is a Region in *Asia* called *Scythia*, wherein they say their Sheep have little or no milks. The reins of a Sheep are equal, and there is no Beast that hath them covered with fat like unto it. Sheep are also apt to grow exceeding fat, for in the year 1547. there was a fat Sheep given to the King of France in *Pickardie*, whereof the inward hoofs or cloves of his fore-feet were grown to be as long as eight fingers are broad, the tops whereof were recurved backward like the horns of a wilde Goat. Concerning their tails we have spoken already, for the vulgar Sheep have hairy tails like Foxes and Wolves. And thus much shall suffice to have spoken of their several parts.

In the next place we are to consider the food and diet of Sheep, and then their inclination, and the utility that ariseth by them, and lastly the several diseases with their medicines and cures. It is therefore to be remembered, that the Ancients appointed shepherds to attend their flocks, and there was none of great account, but they were called Shepherds, or Neatheads, or Goatheads, that is *Bucolici*, *Opiliones*, and *Epoti*, as we have shewed already in the story of Goats: and the Gentiles do report, that the knowledge of feeding Oxen and Sheep came first of all from the Nymphs, who taught *Asiaram* in the Island of *Co*. The *Gracians* therefore call a shepherd *Paimon*, that is, a feeder, or *Paimaneta* to feed; and the Poets also use *Paimaneta* for a shepherd, and the shepherds Dogs, that keep the flock from the Wolf, *Pominitay kunes*, for the Sheep being not kept well, be overcome by the Wolves, according to the saying of *Virgil*;

The food of
Sheep and in-
stitution of
shepherds,

Nam Lupus infidias explorat ovilia circum.

And *Ovid* likewise saith;

Incusoditum capiat ovile Lupus.

The whole care therefore of the Shepherd must be, first for their food; secondly, for their fold; and thirdly, for their health, that so he may raise a profitable gain, either to himself or to him that oweth the Sheep. To begin with the food. Their diet doth not much differ from Goats, and yet they have some things peculiar which must now be expressed. It is good therefore, that their pastures and feeding places look towards the Sun-setting, and that they be not driven over far, or put to too much labour: for this cause the good shepherd may safely feed his Sheep late in the evening, but not suffer them to go early abroad in the morning. They eat all manner of herbs and plants, and sometimes kill them with their bitings, so as they never grow more. The best is to give them always green meat, and to feed them upon land fallowed or ploughed to be sown with corn: and although by feeding them in fat pastures they come to have a softer wool or hair, according to the nature of their food, yet because they are of a moist temperament, it is better to feed them upon the salt and short pasture: for by such a diet, they both better live in health, and also bear more precious wooll.

In dry pastures they are more healthy than in the ferny, and this is the cause why it is most wholesome for them to keep in ploughed grounds, wherein they meet with many sweet and pleasant herbs, or else in upland meadows, because all moisture breedeth in them rottenness: he must avoid the Woods and shadowy places, even as he doth the fens, for if the Sun come not upon the Sheeps food, it is as hurtfull unto him as if he picked it out of the waters: and the shepherd must not think that there

there is any meat so grateful unto this cattle, but that use and continuance will make them to loath it, wherefore he must provide this remedy, namely to give them salt oftentimes in the Summer when they return from feeding, and if he do but lay it in certain troughs in the folds, of their own accord they will lick thereof, and it will encrease in them great appetite.

In the Winter time when they are kept within doores, they must be fed with the softest hay, such as is cut down in the Autumn, for that which is riper is less nourishable to them. In some Countries they lay up for themselves especially green Ewe leaves, or Elm, three-leaved-grass, fowed-vines, and chaffe or pease, when other things fail: where there are store of Vines, they gather their leaves for Sheep to eat thereof without all danger, and very greedily, and I may say as much of the Olive, both wilde and planted, and divers such other plants, all which have more vertue in them to fat and raise your beast if they be aspersed with any salt humor: and for this cause the Sea-wormwood excelleth all other herbs or food to make fat Sheep. And *Myndius* writeth, that in *Pontus* the Sheep grow exceeding fat by the most bitter and vulgar Wormwood. Beans encrease their milk, and also Three-leaved-grass, for that is most nourishable to the Ews with young. And it is observed for the fault which in *Latine* is called *Luxuria segetum*, and in *English* ranckness of corn, there is no better remedy then to turn in your Sheep in May when the ground is hard, if not before, for the Sheep loveth well to crop such stalks, and also the corn will thrive never the worse, for in some places they eat it down twice, and in the Countrey about *Babylon* thrice, by reason of the great fertility thereabouts, and if they should not do so, it would turn or run all into stalk and idle and unprofitable leaves. The same extasie is reported to follow Sheep when they have eaten *Eringia*, that we have expressed also in the History of Goats, namely, that they all stand still, and have no power to go out of their pastures, till their Keeper come and take it out of their mouths. It is reported that they are much delighted with the herb called *Laserpitium*, which first purgeth them, and then do fat them exceedingly: It is therefore reported that in *Cyrene*, there hath been none of this found for many years, because the Publicans that hire the pastures are enemies to Sheep. For at the first eating thereof the Sheep will sleep, and the Goat will fall a neezing. In *India*, and especially in the Region of the *Prasians*, it raineth many times a dew like liquid Honey falling upon the herbs and grass of the earth: wherefore the shepherds lead their flocks unto those places, wherewithal their cattle are much delighted, and such as is the food they eat, such also is the taste of the milk they render; neither need they to mingle Honey with their Milk, as the *Gracians* are constrained to do, for the sweetness of that liquor saveth them of that charge. Such a kinde of dew the *Hebrews* call *Manna*; the *Gracians*, *Aeromelos*, and *Drosomelos*; the *Germans*, *Himmelhung*; and in *English* Honey-dew; but if this be eaten upon the herbs in the month of May, it is very hurtful unto them. We have shewed already, that in some parts of *Africk* and *Ethiopia*, their Sheep eat flesh, and drink milk, and it is apparent by *Philostratus*, that when *Apollonius* travelled towards *India*, in the Region *Pegades*, inhabited by the *Orite*, they fed their Sheep with fishes, and so also they do among the *Carmanian* Indians, which do inhabit the Sea-coasts: and this is as ordinary with them, as in *Caria*, to feed their Sheep with figs, because they want grass in that Country: and therefore the flesh of the Sheep doth tast of fish when it is eaten, even as the flesh of Sea-fouls. The people of that Countrey are called *Ichthyophagi*, that is fish-eaters: Likewise the Sheep of *Lydia* and *Macedonia*, their Sheep grow fat with eating of fishes. *Ænius* also writeth of certain fishes about the bigness of Frogs which are given unto Sheep to be eaten. In *Arabia* in the Province of *Aden*, their Oxen, Camels, and Sheep, eat fishes after they be dried, for they care not for them when they be green: the like I might say of many other places, generally it must be the care of the shepherd to avoid all thorny and stony places for the feeding of his Sheep, according to the precept of *Virgil*;

Pliny.

Areanus.

*Si tibi lanicium cura, primum aspera sylva
Lappæq; tribulq; absint.*

Because the same thing, as he writeth, maketh them bald, and oftentimes scratcheth their skin asunder, his words are these;

Turpis oves tentat scabies

— cum tonsis illotus ad hæsit

Sudor, & hirsuti secuerunt corpora vepres.

Although a Sheep be never so sound, and not much subject to the Pestilence, yet must the shepherd regard to feed it in choice places: for the fat fields breed strait and tall Sheep, the hills and short pastures broad and square Sheep: the Woods and Mountain places, small and slender Sheep: but the best places of all are the plowed grounds. Although *Virgil* prescribeth his shepherd to feed his flock in the morning, according to the manner of the Countrey wherein he lived, for the middle part of the day was over hot, and not fit for cattel to eat in: yet other Nations, (especially *Germany* and *England* and these Northern parts of the world) may not do so. The whole cunning of shepherds is excellently described, for the ordering of their Sheep in these verses following;

Ergo

Ergo omni studio glaciem, ventosq; nivales;
 Quo minus est illis curæ mortalis egestas
 Avertes: viciumq; feres, & virgea lætus
 Pabula: nec tota claudes fœniliq; bruma.
 At vero Zephyris cum læta vocantibus æstas
 In salus * utrumq; gregem atq; in pascua mittes.
 Luciferi primo cum sydere frigida rura
 Carpatum: dum mane novum, dum gramina canent:
 Et ros in tenera pecori gratissimus herba est.
 Inde, ubi quarta sitim cœli collegerit hora,
 Et cantu querule rumpent arbuta cicada:

Ad puteos, aut alta greges ad stagna jubeto
 Currentem illignis petare canalibus undam.
 Æstibus at mediis umbrosam exquirere vallem,
 Sicubi magna Jovis antiquo robore quercus;
 Ingentes tendat ramos: aut sicubi nigrum
 Illicibus crebris sacra nemus accubet umbra.
 Tum tenues dare rursus aquas: & pascere rursus
 Solis ad occasum, cum frigidus æra vesper
 Temperat: & salus reficit jam roseida luna:
 Littoraq; halcyonem resonant, & acanthida dumi.

The description
 of a shep-
 heard's care
 out of Vir-
 gil.

* Oves & ca-
 pras.

When they return from their feeding, the shepherd must regard that he put them not into the folds hot, and if the time of the year be over hot, let them not be driven to pastures a far off, but feed them in those which are near and adjacent to their folds: that so they may easily have recourse unto the shadow: they ought not also to be turned out clustering all together, but dispersed abroad by little and little, neither must they be milked while they are hot, until they be cold a little, so likewise in the morning, let them be milked so soon as day appeareth, and the little Lambs be turned out unto them which were shut from them. But if there appear upon the grass Spiders-webs, or Cob-webs which bear up little drops of water, then they must not be suffered to feed in those places for fear of poisoning; and in times of heat and rain, drive them to the highest hills for pastures, which do most of all lie open to the windes, for there shall the cattle feed most temperately: They must avoid all sandy places, and in the month of April, May, June, and July, they must not be suffered to feed overmuch, but in October, September, and November, let them have their full, that so they may grow the stronger against the Winter time. The Romans had a special regard to chuse some places for the Summering of their Sheep, and some place for their Wintering, for if they summered them in *Apulia*, they wintered them in *Damnis*; and therefore (*Varro* saith) the flocks of *Apulia* betimes in the morning in the Summer season are led forth to feeding, because the dewy grass of the morning is much better then that which is dry in the middle of the day, and about noon when the season groweth hot, they lead them to shadowy trees and rocks, until the cool air of the evening begin to return, at which time they drive them to their pasture again, and cause them to feed towards the Sun-rising: for this is a general rule among the shepherds: *Quod mane ad solis occasum, & vespere ad solis ortum pascantur oves.* That is, that in the morning they feed their Sheep towards the Sun-setting, and in the evening towards the Sun-rising, and the reason of it is; *Quia infirmissimum pecori caput, averso sole pasci cogendum.* Because the head of Sheep is most weak, therefore it ought to be fed turned from the Sun. In the hot Countries a little before the Sun-setting they water their Sheep, and then lead them to their pasture again, for at that time the sweetness seemeth to be renewed in the grass, and this they do after the Autumnal æquinoctium. It is good to feed them in corn fields after harvest, and that for two causes: First, because they are exceedingly filled with such hearbs as they finde after the plough, and also they tread down the stubble, and dung the land, whereby it becometh more fruitful against the next year. There is nothing that maketh a Sheep grow more fat then drink; and therefore we read in holy Scripture how *Jacob* watered the Sheep, and the Daughters of *Jethro* their Sheep, at what time *Moses* came unto them, therefore it is best oftentimes to mingle their water with Salt, according to these verses;

At cui lactis amor, cytisum lotosq; frequentes;
 Ipse manu salsaq; ferat præsepibus herbas.
 Hinc & amant fluvios magis, & magis ubera tendunt,
 Et salis occultum referunt in lacte saporem.

There be many that trouble themselves about this question; namely, for what cause the Sheep of England do never thirst, except they see the water, and then also seldom drink, and yet have no more Sheep in England, then are in any other Countrey of the world; insomuch that we think it a prodigious thing that Sheep should drink: but the true cause why our English Sheep drink not, is, for there is so much dew on the grass, that they need no other water; and therefore *Aristotle* was deceived, who thinketh that the Northern Sheep had more need of water then the Southern. In *Spain* those Sheep bear the best fleeces of wooll that drink least. In the Island of *Cephalene* as we have shewed in the story of the Goat, all their Cattle for want of water do draw in the cold air; but in the hotter Countries every day once at the least about nine or ten a clock in the morning they water their Sheep; and so great is the operation of drink in Sheep, that divers Authors do report wonders thereof, as *Valerius Maximus*, and *Theophrastus*, who affirm that in *Macedonia*, when they will have their Sheep bring forth white Lambs, they lead them to the River *Aliatmon*; and when they will have them to bring forth black Lambs, to the River *Axius*, as we have shewed already. It is also reported that the River *Scamander* doth make all the Sheep to be yellow that drink thereof: Likewise there are two Rivers in *Antandria* which turn Sheep from black to white, and white to

The reason
 why the sheep
 of England do
 not drink.

black, and the like I might add of the River *Trages*, of the two Rivers of *Beotia*, all which things do not come to pass by miracle, but also by the power of nature, as may appear by the History of *Jacob*, when he served his father in law *Laban*.

For after that he had covenanted with *Laban*, to receive for his stipend all the spotted Sheep, the Scripture saith in this manner: *Then Jacob took rods of green Poplar, and of Hazel, and of the Chestnut tree, and piled white strakes in them, and made the white appear in the rods. Then he put the rods which he had piled into the gutters and watering troughs, when the Sheep came to drink, before the Sheep, and the Sheep were in heat before the rods, and afterwards brought forth young of party colour, and with small and great spots. And Jacob parted these Lambs, and turned the faces of the flock towards these party-coloured Lambs, and all manner of black among the Sheep of Laban, so he put his own flocks by themselves, and put them not with Laban's flock. And in every Ramming time of the stronger Sheep, Jacob layed the rods before the eyes of the Sheep in the gutters, that they might conceive before the rods, but when the Sheep were feeble he put them not in, and so the feebler were Laban's, and the stronger were Jacobs. Upon this action of the Patriarch Jacob, it is clear by testimony of holy Scripture, that divers colours laid before Sheep at the time of their carnal copulation, do cause them to bring forth such colours, as they see with their eyes: for such is the force of a natural impression, as we read in stories, that fair women by the sight of Blackamores, have conceived and brought forth black children, and on the contrary, black and deformed women have conceived fair and beautiful children; whereof there could be no other reason given in nature, but their only cogitation of and upon fair beautiful men, or black and deformed *Moors*, at the time of their carnal copulation.*

So that I would not have it seem incredible to the wise and discreet Reader, to hear that the power of water should change the colour of Sheep: for it being once granted, that nature can bring forth divers coloured Lambs, being holpen by artificial means, I see no cause, but diversity of waters may wholly alter the colour of the elder, as well as whited sticks ingender a colour in the younger: And thus much shall suffice to have spoken concerning the Summering of Sheep. For their Wintering I will say more when I come to entreat of their stabling or housing.

Of the copulation of Sheep.

Now then it followeth in the next place to discourse of copulation or procreation; for there are divers good rules and necessary observations, whereby the skilful shepherd must be directed, and which he ought to observe for the better encrease of his flock. First of all therefore it is clear, that Goats will engender at a year old, and some time Sheep also follow that season, but there is a difference betwixt the Lambs so engendered, and the other that are begotten by the elder: therefore at two year old they may more safely be suffered to engender, and so continue till they be five year old, and all their Lambs be preserved for breeding; but after five year old their strength and natural vertue decreaseth, so that then neither the Dam nor the Lamb is worthy the nourishing, except for the knife, for that is born and bred of an old decayed substance, will also resemble the qualities of his fires.

There be some that allow not the Lamb that is yeaned before the parents be four year old, and so they give them four years to engender and breed, namely till they be eight year old, but after eight years, they utterly cast them off: and this opinion may have some good reason, according to the quality of the Region wherein they live, for the sooner they begin to bear young, the sooner they give over; and herein they differ not from Cows, who if they breed not till they be four year old may continue the longer, and for this cause I will express the testimony of *Albertus*, who writeth thus: *Oves parere usq; ad annum octavum possunt, & si bene curentur vel in undecimum facultas pariendi protrahitur, quod tempus est tota fere vita, oves in quibusdam tamen terris marinis ubi sicca & salsa habent pascua vivunt per viginti annos & pariunt.* That is to say, Sheep may breed until they be eight year old, and if they be well kept until they be eleven, which time is for the most part the length of their days, although in some Countries upon the Sea coasts, they live till they be twenty year old, and all that time breed young ones, because they feed upon dry and salt pastures, and therefore *Aristotle* also saith, that they bring forth young ones all the time of their life.

The time of their copulation, as *Pliny* and *Varro* write, is from *May* till about the middle of *August*, and their meaning is, for the Sheep of those hot Countries. For in *England*, and other places shepherds protract the time of their copulation, and keep the Rams and Ewes asunder till *September*, or *October*, because they would not have their Lambs to fall in the cold Winter season, but in the Spring and warm weather: and this is observed by the ancient shepherds, that if the strongest Sheep do first of all begin to engender and couple one with another, that it betokeneth a very happy and fortunate year to the flock, but on the contrary, if the younger and weaker Sheep be first of all stirred up to lust, and the elder be backward and slow, it presageth a pestilent and rotten year.

Aristotle.
Albertus.

Helps for the copulation of Sheep.

They which drink salt Water are more prone to copulation then others, and commonly at the third or fourth time the female is filled by the male. There is a great similitude and likeness betwixt Sheep and Goats. First, for their copulation, because they couple together at the same time. Secondly, for the time they bear their young, which is five moneths, or a hundred and fifty days: also many times they bring forth twins like Goats, and the Rams must be away so admitted as the Lambs may fall in the Spring of the year, when all things grow sweet and green; and when

when all is performed, then must the males be separated from the females again, that so all the time they go with young, they may go quietly without harm.

In their conception they are hindered if they be over fat, for it is with them as it is among Mares and Horses, some are barren by nature, and others by accident, as by overmuch leanness or overmuch fatness. *Plutarch* maketh mention of an ancient custome among the *Græcians*, that they were wont to drive their Sheep to the habitation of *Agenor*, to be covered by his Rams: And I know not whether he relate it as a story, or as a Proverb to signifie a fruitful and happy Ramming time. I rather incline to the later, because he himself saith in the same place, that *Agenor* was a wise and skilful King, Master of many flocks, whose breed of Sheep was accounted the best of all that Nation, and therefore either they sent their females to be covered by his Rams, or else they signified a happy conjunction of the Rams and Ewes together. *Pliny* writeth, that if the right stone of a Ram be tyed or bound fast when he leapeth upon an Ewe, he will engender a male, but if the left stone be tyed, he will beget a female.

Means to make
the Rams ge-
nerate
males or fe-
males.

Near the City *Patra* there are two Rivers, one of them called *Milichus* and the other *Charadrus*, and the Cattle that drink of this water in the Spring time, do beget males, and therefore shepherds when they bring their Sheep and Goats to that River, they drive them to the farther side of the River, because they would have more females than males: for that vertue lyeth in one of the sides, but their Kine they suffer to drink on that side, because among their herds the male is best, for Bulls and Oxen serve them for sacrifice, and to till the earth, and therefore the male in that kinde, but in all other the female is more acceptable.

Both males and females are begotten as well by the vertues of waters, as by the vertue of the Rams, and likewise by the vertue of the winde: for when the North winde bloweth for the most part males are conceived, but when the South winde females: and therefore *Aristotle* saith: *In admittura tempore observare siccis diebus habitus septentrionales, ut contra ventum gregem pascamus, & cum spectans admittatur pecus, at si fœmina generanda sunt, austrinos flatus captare, ut eadem ratione matrices ineanantur.* That is to say, In the Ramming time you must observe the blowing of the Northern winde in dry days, and not only feed the flock against the winde, but also cause the Ram to leap the Ewe with his face to the North: but if you would engender females, then must you in like manner observe the South winde. Unto this experiment do *Palladius*, *Ælianus*, and *Columella* agree, and these things are necessary to be observed about the engendering of Lambs.

Now after that the Ewe is filled by the Ram, the diligent shepherd must have as great regard to keep her from abortment, or casting of her Lamb: therefore *Aristotle* saith, if presently after copulation there fall a showre, or if when they are great with young they eat Walnuts, or Acorns, they will cast their Lambs: and likewise if in time of Thunder the Ewe with young be alone in the field, the claps of Thunder will cause abortment; and the remedy thereof, for the avoiding of that mischief, is prescribed by *Pliny*: *Tonitrus (saith he) solitariis ovibus abortus inferunt, remedium est congregare eas ut coitu juventur*, that is, to call them together in times of Thunder, is a remedy against abortment. Therefore he requireth of a skilful shepherd a voice or whiffel intelligible to the Sheep, whereby to call them together, if they be scattered abroad feeding, at the first appearance and note of thunder. It is also reported, that there are certain veins under the tongue of a Ram, the colour whereof do presage or fore-shew, what will be the colour of the Lamb begotten by them: for if they be all white, or all black, or all party coloured, such also will be the colour of it that they engender.

Albertus.

Ewes bring forth for the most part but one at a time, but sometimes two, sometimes three, and sometimes four, the reason whereof is to be attributed either to the quality of the food whereof they eat, or else to the kinde from which they are derived: For there be certain Sheep in the *Orcaades*, which always bring forth two at one time, and many of them fix. There are also Sheep in *Magnetia*, and *Africk*, that bring forth twice in the year: And *Aristotle* in his wonders writeth, that the Sheep of *Umbria* bring forth thrice in a year, and among the *Illyrians* there are Sheep and Goats, that bring forth twice in the year, two at a time, yea sometimes three, or four, or five, and that they nourish them all together, with their abundance of milk, and besides some of their milk is milked away from them. *Egypt* is so plentiful in grasse, that their Sheep bring forth twice in a year, and are likewise twice lipped: so likewise in *Mesopotamia*, and in all moist and hot Countries.

The yeaning
of Lambs.
Bathius.

Many times times it falleth out, that the Ewe dyeth in the yeaning of her Lamb, and many times they bring forth monsters: so also do all other Beasts that are *multi para*: betwixt a Goat and a Ram, is a Musmon begotten, and betwixt a Goat-buck and an Ewe is the Beast *Cinirus* ingendered; and among the *Rhetians* many times there are mixed monsters brought forth, for in the hinder-parts they are Goats, and in the fore-parts Sheep: for Rams when they grow strong, old and wanton; leap upon the female Goats, upon which they beget such monsters, but they die for the most part immediately after the yeaning.

Albertus.

Sometimes wilde Rams come to tame Sheep, and beget upon these Lambs, which in colour and wooll do most of all resemble the father, but afterward when they bear young, their wooll be- ginneth to be like to other vulgar Sheep: when the Ewe is ready to be delivered, she travaileth and labourerth like a Woman, and therefore if the shepherd have not in him some Mid- wives skill, that in cases of extremity he may draw out the Lamb when the members stick

Custody of
Ewes and
young Lambs
and means to
encrease their
milk.

cross in the matrix, or else if that be impossible, because it is dead in the dams belly, yet to cut it out without peril and danger to the Ewe, in such cases the *Græcians* call a shepherd *Embronicos*.

Having thus brought the Sheep to their delivery for the multiplication of kinde, it then resteth to provide that the new born Lamb may be secured from Dogs, Woolfs, Foxes, Crows, Ravens, and all enemies to this innocent Beast, and also to provide that the Ewe may render to her young one sufficient food out of her udder; therefore they must be well and extraordinarily fed. We have shewed already the use of Salt, and then also it is very profitable when the Ewe is newly delivered of her Lamb, for it will make her drink and eat more liberally. In the Winter time for the encrease of their milk, in stead of green pastures, and such other things as we have expressed, it is requisite to give them corn, and especially plenty of Beans.

For this cause some prescribe to be given unto their Sheep the herb *Lanaria*, which they affirm to be profitable to be given to encrease milk; some the stone *Galacites* to be beaten to powder, and anointed upon the Ewes udder; and some prescribe to sprinkle water and salt upon them every morning in the house or field, before the Sun rising.

But herein I leave every man to his own judgement, hoping it will not be offensive to any, to relate those things before expressed, and resting in opinion, that both the food that is received inwardly, and also the Ointments that are applyed outwardly, will be sufficient means to procure abundance of milk in the Summer and Winter seasons.

Of the winter-
ing and sta-
bling of sheep.

Now therefore it followeth to entreat likewise of the Wintering of Sheep, for as there is more cost to keep them in cold weather than in warm, so it doth require at our hands some discourse thereof. Then it behoveth you to provide for them warm folds and stables, whereof the Poet writeth in this manner:

*Incipiens, stabulis edico in mollibus herbam
Carpere ovis, dum mox frondosa reducitur æstas:
Et multa duram stipula filicumque manipulis
Sternere subter humum; glacies ne frigida ledat
Molle pecus scabiemq; ferat, turpesq; podagras.*

Whereby it is evident that the cold Winters do beget in Sheep divers and many diseases, and for that cause it was the counsel of a wise and learned man, that our Sheep should not be turned out to feeding neither in cold or warm weather, until the frost were dissolved and thawed, from off the grass and earth.

*Palladius.
Pet. Crescent.*

The *Tarentine*, *Græcian*, and *Asian* Sheep, were wont to be altogether kept in stables within doors, lying continually upon planks and boards bored through, that so their precious fleeces might be the better safe-guarded from their own filth and urine; and three times in the year they let them out of their stables, to wash them and anoint them with Oyl and Wine: and to save them free from Serpents, they burned in their stables, and under their cratches, *Galbanum*, Cedar-wood, Womans hair, and Harts-horns: and of these *Tarentine* and *Græcian* Sheep, *Columella* writeth in this manner: It is in vain for any man to store himself with those *Tarentine* Sheep, for they ask as much or more attendance and costly food than their bodies are worth; for as all Beasts that bear wooll are tender, and not able to endure any hardness; so among all Sheep, there are none so tender as the *Tarentine* or *Græcian* Sheep, and therefore the Keeper of them must not look to have any playing days, nor times of negligence or sluggishness, and much less to regard his covetous minde, for they are cattel altogether impatient of cold, being seldom led abroad, and therefore the more at home to be fed by hand; and if by covetousness or negligence, one withdraw from them their ordinary food, he shall be penny wise, and pound foolish: that is, suffer a great loss in his cattel, for saving from them a little meat.

Every one of them all the Winter long, were fed with three pintes of Barley or Pease, or Beans three times a day, beside dryed Ewe-leaves, or Vine leaves, or Hay late mown, or fitches, or chaff. Besides there cannot be any milk taken from the dams, for at the first yeaning there is no more then to serve the little or least Lambs, and after a few days, even while they smell and taste of their dams belly, they were to be killed for want of suck, that every Lamb which was to be preserved for breed might have two dams or Ewes to suck, and so the poor Ewe was forced to a double miserie; first to loose her young one, and afterward to lend her paps and milk to a stranger. And moreover, they were forced to nourish more males than females, for that at two year old they were gelded, or killed, to sell their beautiful skins to the Merchant, for their wool was most pretious, by reason that never or seldom they went abroad to the fields. Their custody in the house from Serpents and other annoyances, is thus described by the Poets:

*Disce & odoratam stabulis incendere cedrum
Galbaneoq; agitare graves nidore chelydros.
Sæpe sub immotis præsepibus, aut mala tætu
Viperâ delituit, cælumq; exterrita fugit,
Aut tecto assuetus coluber.*

In consideration whereof, and of all the pains about the houting of these tender Sheep, the Poet teacheth the shepherd or Sheep-master to kill the Serpents, and dash out the brains of snakes, saying:

—Cape saxa manu; cape robora pastor
Tollentemq; minas, & sibi colla tumentem
Deice.

Concerning the ancient forms of their Sheep-stables, I finde this to be recorded by the ancients. First, they made them low and not of any high or lofty building, so stretching them out in length, and not in height, that it may be warm in the Winter time, for although there be no creature better cloathed by nature then a Sheep, yet is there not any more impatient of cold, nor more apt to take harm thereby. It must not be over-broad, yet so as the Ewe and her Lamb may lie both together, and the breathing place not left open at the top of the house or the sides, for that will let in too much air, but at the door or porch of their entrance, and that very low, that so the fresh air may quickly and easily come to their low heads and bodies, and also their breath the better avoid out of the stable.

The fashion of
sheep-coats or
stables.

They also had a care to cover all the floor with straw or dry boarded boards, or some such other matter, whereby they might stand continually dry and warm, and also clean and sweet, to the end they might not be annoyed in their own standings; and therefore the floor was made shelving or falling low on the one side, or else of hurdles like baskets to let out their urine, for they often make water: and these were often changed, cleansed, and turned. In this stable there ought to be divisions or partitions wherein in time of necessity and sickness, they may easily abide alone and be parted from the residue, and feed without annoyance of one another, and especially that one may not ride another, and during the time of the Winter, they did not let their cattel drink above once a day.

And these were the cures of the Ancients about their flocks of Sheep. For upon them they lived, they bought and sold, and herein also it is profitable to observe the ancient manner of their bargains about these creatures: for when a man came and bought Sheep, he made this protestation to the seller: *Tanti sunt mihi emptæ?* To whom the seller answereth, *sunt*: Then the buyer draweth his mony with these words; *Sic illasce oves, qua de re agitur, sanas recte esse uti pecus ovillum, quod recte sanum est, extra luscum minam. Venire glabro, neq; de pecore morbofo esse, habereq; recte licere: hac si recte fieri respondes? &c.*

The manner
how in old
time they
bought and
sold sheep.

First, the Buyer saith, shall I buy these Sheep for thus much money? and so draweth his money, to whom the Merchant or seller answereth, you shall: Then saith the chapman or buyer again to him, Do you promise to me, then that these Sheep are as sound as Sheep should be, without fault of winde or limb, without blindeness, without deafness, without pield bellies, not coming out of any infected flock; and so as it shall be lawful for me to enjoy them without all mens contradiction, If these things be true, then I will strike up the bargain: and yet doth not the seller change the property of his sheep, nor lose his Lordship over them until the mony be paid. And hereupon it cometh to pass that the buyer may condemn the seller, if the cattel be not so good as his bargain, or if he do not deliver them; even as the buyer is subject to the same judgement, if he do not deliver the price. And concerning shepherds, and custody of flocks I may adde a word or two more: First of all for the number of the Sheep, how many may safely be kept in every flock.

There is no need that I should give any rules about this business, for the Ancients were wont to set one shepherd over a hundred rough or coarse woolled Sheep, and two shepherds over a hundred fine woolled Sheep: the common flocks were seaventy, or fourscore, and the shepherd that followed them, was charged to be both vigilant and gentle, and therefore his discipline was: *Duci propior esse quam domino, & in cogendis, recipiendisque ovibus, adclamatione, ac baculo minetur, nec unquam telum emittat, neque ab his longius recedat, nec aut recubet, aut concidat, nam nisi procedit, stare debet, quoniam grex quidem custodia officium sublimem celsissimamq; oculorum, veluti speculam, desiderat, ut neq; tardiores, & gravidas dum cunctantur, neq; agiles & fetas dum procurrunt, separari a ceteris finat, ne fur aut bestia hallucinantem pastorem decipiat, saith Collumella: He must rather be a guide unto them then a Lord or Master over them, and in driving them forward, or receiving them home after they have stragled, he must rather use his chiding voice, and shake his staffe at them, then cast either stone or dart at them: neither must he go far from them at any time, nor sit down, but stand still, except when he driveth them, because the flock desireth the direction of their Keeper, and his eye like a lofty watch-tower, that so he suffer not to be separated asunder, either the heavy Ews great with young, because of their slow pace, nor yet the light and nimble ones which give suck, and are delivered of their young, which are apt to run away, lest that some ravening beast or thief deceive the loitering shepherd by taking away from him the hindmost or formost. There may also be more in a flock of Sheep then in a flock of Goats, because the Goats are wanton, and so disperse themselves abroad, but the Sheep are meek and gentle, and for the most part keep round together: Yet it is better to make many flocks then one great one, for fear of the pestilence.*

The general
discipline of
shepherds.

In the story of the Dogs we have shewed already, how necessary a shepherds Dog is to the flock, to defend them both from Woolfs and Foxes, and therefore every shepherd must observe those rules there exprest, for the provision, choice, and institution of his Dog: and to conclude this discourse of the shepherd, when the Lambs are young he must not drive their dams far

to pasture, but feed them neer the Town, Village or House, and his second care must be to pick and cull out the aged and sick Sheep every year, and that in Autumn or Winter time, lest they die and infect their fellows, or lest that the whole flock do go to decay for want of renewing and substitution of others, and therefore he must still regard that when one is dead he supply the place with one or two at the least, and if he chance to kill one at any time for the household, the counsel of *Antiphanes* is profitable to be followed; *Illas tantum maciare debes oves ex quibus nullus amplius fructus, vel casei vel velleris, vel lactis, vel agnorum perveniet.* That is, to kill those Sheep from whom you can never expect any more profit by their Lambs, Milk, Cheese, or Fleeces.

Of the diseases of Sheep, and their causes in general.

Of the diseases
of Sheep.

IN the next place it is necessary for the wise and discreet shepherd to avoid all the means whereby the health of his flock should be endangered, and those are either by reason of their meat and food that they eat, or else by reason of natural sicknesses arising through the corruption of blood, and the third way is by the biting of venomous beasts, as Serpents and Wolves, and such like; and a fourth way, scabs, Gowts, swellings, and such like outward diseases.

Of venomous meats or herbs unto Sheep.

THERE is an herb which the *Latines* call *Herba Sanguinaria*, *Pilosella*, *Numularia*, and by the *Germans* and *English* call Fenugreek, and by the *French* because of the hurt it doth unto Sheep, they use this circumscription of it: *L'herbe qui tue les brebis*. The herb that destroyeth Sheep. (It is called also *Serpentine*, because when Snakes and Adders are hurt therewith, they recover their wounds by eating thereof; when a Sheep hath eaten of this herb, the belly thereof swelleth abundantly, and is also drawn together, and the Sheep casteth out of his mouth a certain filthy spume or froath, which smelleth unsavourily, neither is the poor beast able to escape death, except presently he be let blood in the vein under his tail next to the rump, and also in the upper lip: yet is this herb wholesome to all other cattle except Sheep alone, wherefore the Shepherds must diligently avoid it. It is a little low hearb, creeping upon the ground with two round leaves, not much unlike to Parsley, it hath no favour with it, or smelleth not at all, the flower of it is pale and smelleth strong, and the stalk not much unlike the flower. It groweth in moist places, and near Hedges and Woods.

If in the Spring time Sheep do eat of the dew called the Hony-dew, it is poyson unto them, and they die thereof: Likewise canes in the Autumn do make their belly swell unto death, if they drink presently after they have eaten thereof, for that meat breaketh their guts asunder. The like may be said of Savine, Tamarisk, Rhododendron, or Rose-tree, and all kindes of Henbane.

The female Pimpernel doth likewise destroy Sheep, except as soon as they have eaten of it, they meet with the herb called *Ferus-oculus*, Wilde-eye; but herein lyeth a wonder, that whereas there are two kindes of this herb, a male and a female, they should earnestly desire a male, and eagerly avoid a female, seeing that both of them have the same taste in the palat of a man, for they taste like the raw roots of Beets.

There is an herb in *Normandy* called *Duna*, not much unlike Rubarb, or great Gentian, but narrower leaves, and standing upright, the nerve whereof in the middle is red, and it groweth about the waters, and therefore I conjecture it may be Water-sorrel, or Water-plantain, whereof when Sheep have eaten, they fall into a disease called also *Duna*, for there is bred in their liver certain little black Worms or Leeches, growing in small bags or skins, being in length half a finger, and so much in breadth, wherewithall when the Beast is infected, it is incurable; and therefore there is no remedy but to take from it the life: and that this is true, the Butchers themselves affirm, how many times they do finde such little worms in the Sheeps liver, and they say, they come by drinking of Fenny or Marshy-water. And to conclude, there is a kinde of Pannick also, whereof when Sheep have eaten it destroyeth them, and there be other herbs which every common shepherd knoweth are hurtful unto Sheep; and the Beast it self, though in nature it be very simple, yet is wise enough to chuse his own food, except the vehement necessity of famine and hunger causeth him to eat poysoned herbs.

In cases when their bellies swell, or when they have worms in their belly which they have devoured with the Herbs they eat, then they pour into their bellies the urine of men, and because their bellies presently swell and are puffed out with winde, the shepherds cut off the tops of their ears, and make them bleed, and likewise beat their sides with their staff, and so most commonly they are recovered. If Sheep chance to drink in their heat, so as their greafe be cooled in their belly, which Butchers do finde many times to be true, then the shepherd must cut off half the Sheeps ear, and if it bleed the Beast shall be well, but if it bleed not, he must be killed and eaten, or else he will starve of his own accord. If at any time a Sheep chance to devour a leach, by pouring in Oyl into his throat, he shall be safe from danger.

Of the Colds of Sheep.

Sheep are known to be subject to cold, not only by coughing after they have taken it, but also by their strength before they take it; for the shepherds do diligently observe, that when any frost or ice falleth upon a Sheep, if he endure it, and not shake it off, it is a great hazard but the same Sheep will die of cold, but if he shake it off, and not endure it, it is a sign of a strong, sound, and healthy constitution: Likewise for to know the health of their Sheep, they open their eyes, and if the veins appear red and small, they know they are sound, but if they appear white, or else red and full; they know they are weak, and will hardly live out Winter or cold Weather: also when they are taken in their hands, they press their back bone near the hips, and if it bend not they are sound and strong, but if they feel it bend under their hand, they hold them weak and feeble: Likewise if a man take them by the head or by the skin of the neck, if he follow him easily when he draweth him, it is a sign of weakness and imbecillity, but if it doth strive, and follow with great difficulty, then it is a token of health and soundness.

Of Scabs, and the causes of them.

The true original of Scabs is either as we have said already, leanness, or else cold, or wet, or wounds in the flesh by clipping, or to conclude, by the heat of the Beast in Summer not washed off, by thorns and prickings of bushes, or by sitting upon the dung of Mules, Horses, or Ases. Now when this first of all beginneth, it is easie for the shepherd to observe by these signes and tokens, for the tickling or itching humor, lying betwixt the skin and the flesh, causeth the poor Sheep either to bite the place with his teeth, or to scratch it with his horn, or to rub it upon a tree or wall, or if he can do none of these, stamp hard upon the ground with his fore-feet, for which it is good presently to separate the Sheep so affected from the flock. The description and cure whereof is thus expressed by Virgil:

The original
cause of scabs.

*Turpis oves tentat scabies, ubi frigidus imber.
Altijs ad vivum perdidit, & horrida cano
Bruma gelu: vel cum tonfit illotus adhaesit
Sudor, & hirsuti secuerunt corpora vepres.
Dulcibus idcirco fluvijs pecus omne magistri
Perfundunt, udisq; aries ingurgite villis
Mersatur, missusq; secundo defluit amni.
Aut tonsum tristi contingunt corpus amurca:*

*Et spumas miscent argenti, viciaq; sulphura,
Idaeq; piceae, & pingues unguine ceras,
Scillamq; helleborosq; graves nigrumq; bitumen.
Non tamen ulla magis praesens fortuna laborum est,
Quam si quis ferro potuit rescindere summum
Ulcus os: alitur vitium, vivinq; legendo,
Dum medicas adhibere manus ad vulnera pastor
Abnegat.*

which may be Englished in this manner: When the poor Sheep through wet showers, cold Winter, Summers sweat, or pricking of thorns, doth incur the filthy disease of scabs, then it concerneth his master to wash him in sweet Rivers over head and ears, yea to cast him in to swim for his own life, or else to anoint his body after it is clipped with the spume or froth of Oyl, and of Silver with Brimstone, and soft Idean Pitch, with Wax, Hellebore, Black-earth, or the flesh of Shrimps; or if it be possible to cut off the top of the wound with a knife.

Of the Scabs of Sheep, the first remedy.

This disease the French men call *Letac*, and of all other it is one of the most contagious, for our English proverb justifieth, one scabbed Sheep infecteth a whole flock, and *Textor* writeth thus of it; *Oves frequentius quam ullum aliud animal infestantur scabie, quam facit macies, ut maciem inopia cibi, huic morbo nisi occurratur unica totum pecus coinquinabit, nam oves contagione vexantur.* That is to say, Sheep are more oftentimes infected with scabs then any other creature, whereinto they fall through leanness, as they fall into leanness through want of food; and therefore if a remedy be not provided for this evil, one of them infected will defile all the residue, for Sheep are subject to contagion: for remedy whereof in France they use this medicine: First of all they shear the Sheep, and then they mingle together the pure froath of Oyl and water, wherein Hops have been sod, and the lees of the best Wine, and so let it soak in two or three days together: afterwards they wash them in Sea water, and for want of Sea water in salt water: and this medicine is approved, whereby both scabs and tikes are removed from the Sheep, and also the wooll groweth afterwards better then ever it did before; but it is better if a man can cure them without shearing then by shearing, as *Varro* writeth; and furthermore to wash Sheep oftentimes with this medicine, doth preserve them from scabs before they be infected: and others adde unto this medicine little sticks of Cypress-wood soaked in water, and so wash them therewith; some again make another medicine of Sulphure or Brimstone, Cyprus, white Lead and Butter, mingled all together, and so anoint their Sheep therewith. Some again take earth which is as soft as dirt, being so softened with the stale of an Ass, but evermore they have the scabbed place first of all, and wash it with cold or stale urine, and generally in Arabia they were never wont to use other medicine then the gum of Cedar, wherewithall they purged away by Ointment all scabs from Sheep, Camels, and Elephants:

phants: but to conclude, there is no better medicine for this evill then Urine, Brimstone and Oyl, as *Diophanes* writeth.

Another medicine for the Scabs.

TAke the lees of Wine, the froath of Oyl, white Hellebore mingled with the liquor of sod Hops, also the juyce of green Hemlock, which is expressed out of the stalk before it hath seed, after it is cut down and put into an earthen vessel with any other liquor mingled, with scorched salt, so the mouth of the vessel being made up close, set it in a dunghill a whole year together, that so it may be concocted with the vapour of the dung, then take it forth, and when you will use it, warm it, first of all scraping the ulcerous or scabbed part with an Oyster shell, or else with a sharp pumice stone, untill it be ready to bleed, and so anoint it therewith.

Another medicine of the same.

TAke the froath of Oyl sod away to two parts, I mean three parts into two, put therinto the stale urine of a man, which hath been heated by casting into it hot burning Oyster-shells, and mingle a like quantity of the juyce of Hemlock, then beat an earthen pot to powder, and infuse a pinte of liquid Pitch and a pinte of fryed or scorched salt, all which being preserved together, do cure the scabs of Sheep so often as they are used.

Another medicine.

A Drink being made of the juyce of Hops, and the herb Chamælion, and given unto them cureth them. Likewise the same being sod with the roots of black Chamælion, and anointed warm upon the place, according to *Dioscorides*, have the same operation. Likewise *Pliny* writeth, that the scabs of Sheep may be cured by salt water alone, either taken out of the Sea, or made by art, and forasmuch as there is great danger in the decoction thereof, lest that the water overcome the salt, or the Salt overcome the water, he prescribeth a mean how to know it, namely the equal and just temperament thereof, for (saith he) if it will bear up an Egge then it is well tempered, so that the Egg will swim and not sink, which you shall find by addition of equal and just quantity of water and Salt, that is, two pintes of water, a pinte of Salt, and so less to less, and more to more. But if there be any bunch or great scab which covereth any part of the skin, then open the scab and bunch, and pour into it liquid pitch and scorched salt: and thus much for the disease of the scabs.

Of the Holy fire which the Shepherds call the Pox, or the Blisters, or Saint Antonies fire.

THis evill is incurable, for it neither admitteth medicine nor resecation by knife, and therefore whensoever a Beast is infected therewith, it ought presently to be separated from the residue of the flock, for there is nothing that spreadeth it self more speedily: whensoever you adventure to apply any thing unto it, it presently waxeth angry, and perplexeth the whole body except it be the milk of Goats, and yet my Author speaketh thus of it: *Quod infusum tantum velet, ut blandiatur, igneam sevitiam, differens magis occisionem gregis, quam prohibens.* That is, It seemeth to close with raging fire, as it were to flatter it a little, rather deferring the death of the Beast, then doing away the disease. It is therefore prescribed by the most memorable Author of all the *Egyptians*, that men do oftentimes look upon the backs of their Sheep to see the beginning of this sickness, and when they finde a Sheep affected herewith, they dig a ditch or hole fit for him at the entering in of the Sheep-coat or stable, wherein they put the Sheep alive with his face upward, and back downward, and cause all the residue of the flock to come and piss upon him, by which action it hath been often found (as *Columella* writeth) that this evill hath been driven away, and by no other means.

Of the Warts, and Cratches of Sheep.

THis disease is called by the vulgar shepherds the Hedghog, and it doth annoy the Sheep two manner of ways, First, when some gauling or matter ariseth upon the paring of the hoof, or else a bunch arise in the same place having hair growing in the middle like the hair of a Dog, and under that a little worm, the worm is best drawn out with a knife, by cutting the top of the wound, wherein must be used great wariness and circumspection, because if the worm be cut asunder in the wound, there issueth out of her such a venomous pustulate matter, that poysoneth the wound, and then there is no remedy but the foot must be cut off. But the wound being opened, and the worm taken out alive, presently with a Wax-candle you must melt into it hot burning sewet, and if there be no bunch but only scabs, take Allum, liquid Pitch, Brimstone, and Vinegar, mingled all together, and apply it unto the wound, or else take a young Pomgranate before the grains grow in it, and bake it with Allum, casting upon it Vinegar, sharp Wine, and the rust of Iron fryed all together.

Of the Falling-sickness.

IT cometh to passe sometimes that Sheep are infected with the Falling-sickness, but the cure hereof can never be known, nor yet the sickness well till the beast be dead, and then (as Hippocrates writeth) by opening of the brain it will evidently appear, by the over great moistness thereof.

Of the pains in the Eyes.

IT is reported by Theophrastus and Pliny, that for clouds and other pains in the Eye of a Sheep, horned-poppy and Chamelia are very wholesome.

Of Phlegme in Sheep.

FOR the Remedy of this Disease, take Penyroyal, Marjoram, or wilde Nep made up together in wool, and thrust into the Nose of the Sheep, there turned round untill the Beast begin to neeze, also a stalk of black Hellebor boared through the ear of the Sheep, and there tyed fast for the space of four and twenty hours, and then taken out at the same time of the day that it was put in, by Pliny and Columella is affirmed to be an excellent remedy against the Phlegm.

Of the swelling in the Jaws.

THere is sometimes an inflammation or swelling in the Jaws of Sheep, which the Latins call *Tonsillæ*, coming by reason of a great flux of humors from the head unto that place, which may be cured two manner of wayes, first, by incision or opening the skin where the bunch lyeth, whereby all the watery tumors are evacuated, and the Beast cured; or else if through the coldnesse of the weather or some other accident you list not to cut the skin, then annoint it with liquid Pitch, prepared in such manner as is before expressed for the Scabs, by operation whereof, it will be dissolved and dispersed. When this evill ariseth in the begining of the Spring, many times it is cured without all remedy, because the Beast for the greedinesse of the sweet grasse stoopeth down her head, and stretcheth her neck, by which the straining and sorenesse of her jawes and throat departeth, and this sickness in a sheep is like the Kings-evill in a man. There be some that cure it by putting salt among the meat of these Beasts, or by Juniper berries, and Harts-tongue leaves beaten to powder.

For the Cough, and pain in the Lungs.

Shepherds for these diseases do take the powder of the root of Foal-foot, and mingle it with Salt, so give it unto the Sheep to lick, whereby they are perswaded, that the Lungs of the Beast are much comforted and strengthned, and furthermore against the Cough, they take blanched Almonds, and beat them to powder, and so tempering in them two or three cups of Wine, do infuse it in at the Sheeps Nostrils, and likewise Vervine which is called a kinde of Germander, but falsely, because it hath no good smell, is given by shepherds at this day unto their Sheep against the Cough.

Of sighing and shortness of breath.

FOR Sheep that are affected with much sighing, they use to bore a hole with an Iron through their ears, and remove the Sheep out of the place where they feed to some other place, and if it come from the sickness of the Lungs, then the herb called Lungwort or Crefwort, is the most present remedy in the World: If the root thereof be drunk in water, or a piece thereof tyed under the Sheeps tongue, or (as Celsus saith) give unto it as much Vinegar as the Beast can endure, or half a point of a Mans stale urine warmed at the fire, and infused into the Nostril with a little horn, this also is a remedy against Flegm in the Summer time.

Of the loathing of Sheep, and encreasing of their stomach.

IF at any time the Sheep forsake his meat, then take his tail and pull off from it all the Wool: Afterwards bind it as hard as ever you can, and so he will fall hard to his meat again: and Pliny affirmeth, that the same part of his tail which is beneath the knot will die after such binding, and never have any sense in it again.

Of the Fluxes of Sheep, and looseness of the belly.

For this disease the Shepherds take no other thing but the herb *Tormentilla*, or Set-foyl; where-withall they stop all manner of laxes, but if they cannot get the same herb, then they take salt and give it unto them; and so having increased their thirst, they give unto them black Wine, whereby they are cured.

Of the milt of Sheep.

IN April and May, through the abundance of thick grosse blood, the Milt of Sheep is stopped and filled, then the Shepherds will take two of their fingers, and thrust them within the Nostrils of the Sheep, there rubbing them untill they make them bleed, and so draw from them as much blood as they can.

Of the sickness of the Spleen.

Forasmuch as a Horse, a Man and a Sheep, are troubled with the same diseases, they are also to be cured with the same remedies, and therefore Spleen-wort given unto Sheep, as to a Man and a Horse (as we have already expressed) is the best remedy for this Malady.

Of the Fevers of Sheep.

Sometimes a shaking rage through an incensed and unnatural heat of the blood in the Sheep begeth in him a Fever, the best remedy whereof is to let him blood, according to these Verses;

*Quinetiam ima dolor babantum lapsus ad ossa,
Cum furit, atq; artus depascitur arida febris:
Profuit incensos aestus avertere: & inter
Ima ferire pedis salientem sanguine venam,
Quam procul aut molli succedere sapius umbra*

*Videris, aut summas carpentem ignavus herbas,
Extremamq; sequi, aut medio procumbere campo
Pascentem, & sera solam decedere nocti.
Continuo ferro culpam compece: priusquam
Dira per incautum serpat contagio vulgus.*

In which Verses the Poet defineth the signes of this disease and the cure. The signes he saith are solitariness, and a careless feeding, or biting off the top of his meat, following always the hindmost of the flock, and lying down in the middle of the field, when others be a feeding, also lying alone in the night time, and therefore he wisheth to let them blood under the pastern or ankle bone of their foot, but by often experiment it hath been proved, that to let them blood under the eyes or upon the eares, is as available as in the legs; but concerning the Fever we will say more in the discourse of the Lambs.

Of the Pestilence or Rottensness of Sheep.

His sickness first of all cometh unto Sheep out of the earth, either by some earthquak, or else by some other Pestilent humor corrupting the vitall spirit: for *Seneca* writeth, that after the City *Pompeii* in *Campania* was overthrown by an Earthquak in the Winter time, there followed a Pestilence which destroyed six hundred Sheep about that City in short time after, and this he saith did not happen through any natural fear in them, but rather through the corruption of water and air which lyeth in the upper face of the earth, and which by the trembling of the earth is forced out, poysoning first of all the Beasts because their heads are downward and feed upon the earth; and this also will poyson men if it were not suppressed and overcome by a multitude of good air which is above the earth. It were endlesse to describe all the evils that come by this disease, how some consume away by crying and mourning, filling both fields and hills with their lamentations, leaving nothing behind them, no not their skins or bowels for the use of Man: For the cure whereof, First change the place of their feeding, so that if they were infected in the woods or in a cold place, drive them to the hills or to sunny warm fields; and so on the contrary, if in warm places and clement air, then drive them to more turbulent and cold pastures: remove and change them often, but yet force them gently, weighing their tick and feeble estate, neither suffering them to die through laziness and idleness, nor yet to be oppressed through overmuch labour. When you have brought them to the place where you would have them, there divide them asunder, not permitting above two or three together, for the disease is not so powerful in a few as in a multitude; and be well assured that this removing of the air and feeding is the best Physick. Some do prescribe three-leaved grasse, the hardest roots of Reeds, sand of the Mountain, and such other Herbs for the remedy of this; but herein I can promise nothing certain, only the Shepherd ought oftentimes to give this unto his Sheep when they are found. I will conclude therefore this discourse of the Pestilence with the description of *Virgil*;

Balatu pecorum, & crebris mugitibus amnes,
 Arentesq; sonant ripe collesq; supini,
 Jamq; catervatim dat stragem: atq; aggerat ipsis
 In stabulis, turpi dilapsa cadavera tabo,
 Donec humo tegere, ac foveis abscondere disceunt,
 Nam neq; erat coriis usus, nec viscera quisquam
 Aut undis adolere potest, aut vincere flamma.

Nec tondere quidem morbo, illuvieq; peresa
 Vellera, nec telas possunt attingere putres
 Verum etiam invisos si quis tentarat amicum,
 Ardentes papule, atq; immundus olentia sudor
 Membra sequebatur: nec longo deinde moranti
 Tempore, contactos artus sacer ignis edebat.

It is reported by John Stowe, that in the third year of Edward the first, and in Anno 1275. there was a rich man of France, that brought a Sheep out of Spain (that was as great as a Calf of two year old) into Northumberland, and that the same Sheep fell rotten, or to be infected with the Pestilence, which afterward infected almost all the Sheep of England: and before that time the Pestilence or rottenness was not known in England, but then it took such hold, and wrought such effects, as it never was clear since, and that first Pestilence gave good occasion to be remembered, for it continued for twenty and six years together. And thus much for this disease of the Pestilence caused in England for the most part in moist and wet years.

Of Lice and Tikes.

IF either Lice or Tikes do molest Sheep, take the root of a Maple tree, beat the same into powder, and seethe it in water, afterwards clip off the wool from the back of the Sheep, and powre the said water upon the back, untill it hath compassed the whole body: some use for this purpose the root of *Mandragoras*, and some the roots of *Cypresse*, and I finde by good Authors, that all of them are equivalent to rid the Sheep from these annoyances: To conclude therefore the discourse of Sheeps diseases, it is good to plant near the Sheep-coats, and pastures of Sheep, the herb *Alysson*, or wilde Gallow-grasse, for it is very wholesome for Goats, and Sheep; likewise the flowers of wormwood dried and beaten to powder given unto Sheep with Salt, doth assuage all inward diseases and pains, and also purge them thoroughly.

The juice of Centory is very profitable for the inward diseases of Sheep, and likewise the flowers of Ivy. the Hoom tree hath four kinds of fruit, two proper, the Nut, and the Grain; two improper, the Line, and Hiphear, this Hiphear is very profitable for Sheep, and it is nothing else but a confection made out of the barks of the Hoom tree: the word it self is an *Arcadian* word, signifying no other thing then *viscus* and *stelis*. Sheep also delight in the branches of Maiden-hair, and generally the Wool of Sheep burned to powder and given them to drink, is very profitable for all their inward diseases. And thus much shall suffice to have spoken of the several infirmities and sicknesses of Sheep, which I desire the *English* Reader to take in good part, wondering very much at the manifold wits, and stirring pens of these dayes, wherein I think our times may be compared to the most flourishing times that ever were since the worlds beginning; yet none have adventured to apply their times and wits for the explication of the several sicknesses of Sheep and Cattle.

I know there are many Noblemen, Knights and Gentlemen of the Land, and those also which are very learned, that are great masters of Sheep and Cattle, and I may say of them as the Prophet David saith: *Their Oxen are strong to labour, and their Sheep bringeth forth thousands and ten thousands in their fields*: Whereby they are greatly enriched, and yet not one of them have had so much commiseration, either towards the poor Cattle, in whose garments they are warmed, or Charity to the World.

For the better direction to maintain the health of these creatures, as to publish any thing in writing for the benefit of Adams children, but such knowledge must rest in the breasts of silly Shepherds; and for the masters, either they know nothing, or else in strange visitation and mortality of their Cattle, they ascribe that to Witchcraft and the Devill, which is peculiar to the work of nature.

Horses, Dogs, and almost every creature, have gotten favour in Gentlemens wits, to have their natures described, but the silly Sheep better every way then they, and more necessary for life, could never attain such kindnesse, as once to get one page written or indited for the safeguard of their natures. I do therefore by these presents from my soul and spirit, invite all Gentlemen and men of learning, not only to give their mindes to know the defects of this beast, but also to invent the best remedies that nature can afford, for it is a token of highest mercy unto brute beasts to feed them when they are hungry, and to recover them when they are sick.

Columella and *Varro* two great Romans, and such as had attained to some of the greatest place of the Common-wealth, being men of excellent wits and capacity, yet had their names been forgotten and they never remembered, if they had not written of rustick and countrey matters, and it is no little honour unto them to have left that behind them in Print, or writing, which themselves had observed from following the Plough. Therefore it shall be no disgrace for any man of what worth soever to bestow his wits upon the Sheep; for certainly it is no lesse worthy of his wit, then it is of his teeth; and how necessary it is for the nourishment of man, we all know to this day, and besides there is nothing that so magnifyeth our *English* Nation as the price of our Wool

in all the kingdoms of the World. But what account the antients made of Sheep, I will now tell you; for their greatest men both Kings and Lords were Shepherds, and therefore you which succeed in their places shall bestow much lesse labour in writing of Sheep then they did in keeping: with the picture of a Sheep they stamped their antient money, and it is reported of *Man-drabulus*, that having found a great treasure in the earth, in token of his blind thankfulness to God, did dedicate three pictures of Sheep to *Juno*, one of Gold, another of Silver, and a third of Brasse; and besides the antient *Romans* made the penalties of the lawes to be Oxen and Sheep, and no Man might name an Ox untill he had named a Sheep.

Among the *Troglodytes* they had their Wives common, yet their Tyrants had lawes to keep their wives to themselves, and they thought it a great penalty for the Adultery of their wife, if the Adulterer payed them a Sheep.

The Poets have a pretty fiction, that *Endymion* the Son of *Mercury* fell in love with the Moon, who despised him, and that therefore he went and kept Sheep; afterward the Moon fell in love with his white Sheep, and desired some of them, promising to grant his request, if he would gratifie her choice: whereupon the wise-man (as *Probus* writeth) divided his flock into two parts, the whiter on the one side which had the courser Wool, and the blacker on the other side which had the finer Wool, so the Moon chose the white ones and granted him her love, whereupon *Virgil* thus writeth;

Pan munere niveo luna captum te Luna fefellit.

It may appear also in what great regard Sheep were in antient time, for that their Priests made holy Water and sacrifices for their sanctification, whereof I finde these relations in *Gyraldus*, *Virgil*, and others. At the lustration of Sheep there was another manner of sanctifying then at other times, for the Shepherd rose betimes in the morning, and sprinkled his Sheep all over with Water, making a perfume round about the fold, with Sulphur, Savine, Lawrell, Wine and fire, singing holy verses, and making sacrifice to the God *Pan*, for they did believe that by this lustration the health of their Sheep was procured, and all consuming diseases driven away.

It is reported that when Sheep of strange colours were sprinkled with this water, it signified great happiness to the Princes of the people, and they were gifts for the Emperour, whereupon *Virgil* made these Verses;

*Ipsæ sed in pratis aries jam suave rubenti
Mureæ, jam cræceo mutabit vellera luto.*

When men went to receive answers of the Oracles, they slept all night in the skins of Sheep. There was a Noble sacrifice among the *Pagans* called *Hecatombe*, wherein were sacrificed at one time a hundred Sheep at a hundred several Altars.

It is reported of King *Iosias*, that he sacrificed at one time twelve hundred Oxen and eight and thirty hundred Sheep; so great was the dignity of this Beast, that God himself placed in the death thereof one part of his worship: and whereas it was lawful among the Heathens to make their sacrifices of Sheep, Goats, Swine, Oxen, Hens, and Geese, they made reckoning that the Lamb and the Kid was best of all, for that God was not pleased with the quantity, but with the quality of the sacrifice. The antient *Egyptians* for the honor of Sheep, did neither eat nor sacrifice them, and therefore we read in holy Scripture, that the *Israelites* were an abomination to the *Egyptians*, because they both killed, and sacrificed Sheep, as all Divines have declared.

There is a noble story of *Clitus* who when he sacrificed at the Altar, was called away by King *Alexander*, and therefore he left his sacrifices and went to the King, but three of the Sheep that were appointed to be offered did follow after him, even into the Kings presence, whereat *Alexander* did very much wonder (and that not without cause) for he called together all the Wise-men and Sooth-sayers to know what that prodigy did foreshew, whereunto they generally answered that it did foreshew some fearful events to *Clitus*, for as much as the Sheep which by appointment were dead, that is, ready to die, did follow him into the presence of the King, in token that he could never avoid a violent death: and so afterwards it came to passe; for *Alexander* being displeased with him, because (as it is said) he had railed on him in his drunkenness, after the sacrifice commanded him to be slain, and thus we see how divine things may be collected from the natures of Sheep. These things are reported by *Plutarch* and *Pausanias*.

Another note of the dignity of Sheep, may be collected from the custom of the *Lacedemonians*: When they went to the wars they drove their Goats and their Sheep before them, to the intent that before they joyned battle they might make sacrifice to their Gods: the Goats were appointed to lead the way for the Sheep, for they were drove formost, and therefore they were called *Cateades*, and on a time this miraculous event fell out, for the wolves set upon the flocks, and yet contrary to their ravening nature, they spared the Sheep, and destroyed the Goats; which notable fact is worthy to be recorded, because that God by such an example among the Heathen *Pagans*, did demonstrate his love unto the good in sparing the Sheep, and his hatred unto the wicked in destroying the Goats, and therefore he reserved the Sheep to his own Altar:

Idibus alba Jovi, grandior agna cadit,

So saith *Ovid.*

Nigram hiemi pecudem, zephyris felicibus albam,

So saith *Virgil.*

And again;

Huc castus Hibilla

Nigrarum multo pecudum te sanguine ducet.

To *Jupiter* and to the Sun, they were wont to sacrifice white Sheep or Lambs, but to *Plato* and to the Earth, they sacrificed black Sheep or Lambs, in token of deadnesse: Therefore *Tibullus* writeth;

Interea nigras pecudes promittite Divis

And *Virgil* saith;

Duc nigras pecudes, ea prima piacula Juno.

When the *Grecians* sent their Spies to the tents of the *Trojans*, to discover what order, strength, and discipline they observed: *Nestor* and the antients of *Greece* vowed unto the Gods for every one of the Captains a several gift, that was, *Oin melainan, thelen hyporrenon*; that is, a black Sheep great with young: the reason whereof is given by the *Scholias*, they vowed (saith he) a black Sheep, because the Spies went in the night time, blackness being an emblem of darkness, and a Sheep great with young because of good fortune, for they sped well in *Troy*. In *Apollonia* there were certain Sheep that were dedicated to the Sun, and in the day time they fed neer the river in the best pasture, being lodged every night in a goodly spacious cave neer the City, over whom the greatest men both for wealth, strength, and wit were appointed every night to watch by turns for their better safeguard: and the reason of this custody, and the great account made of these Sheep, was for that the Oracle had commanded the *Apollonians* to do so unto them, and make much of them: Afterwards *Evenius* a noble man among them keeping watch according to his turn, fell asleep, so that threescore of the said Sheep were killed by Wolves; which thing came in question among the common Magistrates to know the reason of that fact, and how it came to pass, whether by negligence or by some other violent incurfion: *Evenius* being no wayes able to defend it, was condemned to have both his eyes put out, that so he might be judged never more worthy to see the light with those eyes, which would not wake over their charge, but wink and sleep when they should have been open. And to conclude, I will but add this one thing more, that whereas the *Egyptians* worshipped the Sheep for a god, God permitted the same unto the *Jews* to be eaten among common and vulgar meats, and also to be burned at the Altar for sacrifice; and whereas the said *Egyptians* did not only eat but sacrifice swines flesh, God himself did forbid his people that they should never eat or tast of Swines flesh as an abominable thing: by which he signifieth how contrary the precepts of men are to his own laws, for that which he forbiddeth, they allow; and that which they allow, he forbideth; and therefore how far the people of God ought to be from superstition, and from the traditions of men, is most manifest by this comparison, for that was never sanctified that came not into the Temple, and that was never lawful which was not approved by God: and those things which in his law have greatest appearance of cruelty, yet are they more just and equall then the most indifferent inventions of men, which seem to be stuffed out with mercy, and gilded over with compassion.

Cælius.

Herodotus.

And these things most worthy Readers, I have thought good to express in this place for the dignity and honorable account which the greatest men of the world in former times have made of Sheep, and thereby I would incite and stir you up, if it were but one noble spirited learned man, which is furnished with wit, means, and opportunity, to dive and pierce into the secrets of *English* Sheep, and Shepherds, and to manifest unto the world, the best and most approved means and medicines, for the propulsing and driving away of all manner of diseases from those innocent profitable beasts, and for their conservation in all manner of health and welfare.

I am sorry that our times are so far poysoned with Covetousness, that there is no regard of God, man, or beast, but only for profit and commodity: for as for the service of God, we see that the common devotion of men, and practise of their Religion, is founded upon a meer hope that therefore God will better prosper them in worldly affairs, and if it were not for the reward in this world, the professors of Religion would not be half so many as now they are; and that is true in them which the Devil slanderously objected to *Job*, namely, that they do not serve God for nothing, and they had rather with *Dives* have the Devils favour in rich garments and delicate fare, then with *Lazarus* with misery and contempt, enjoy the favour of God, and to set up their hopes for an other world. As for Men, we see that the Son loveth his Father but for patrimony, and that one man maketh much of another, for hope to receive benefit and recompence by them; and therefore it is no marvell if the silly beasts have obtained so little mercy, as to be loved, not because they are Gods creatures, but for that they are profitable and serviceable for the necessities of men: for this cause you nourish them, and not like the *Apollonians* aforesaid for the Oracles sake, but

for their fleeces and their flesh. Therefore if you have any compassion, learn how to help their miseries, and publish them to the world for the general benefit; for he cannot be good which is not merciful unto a beast, and that mercy doth easily die which groweth but in one heart of one mortal man.

There were a company of people in Egypt called *Lycopolitæ*, who worshipped a Wolf for a God, and therefore they alone among all the Egyptians did eat Sheep, because the Wolf did eat them; even so I can make no better reckoning of those men that nourish Sheep for their profit only, then I do of the *Lycopolitæ*, which worshipped a Wolf, for such men have no other God but their belly, and therefore I trust these reasons shall perswade some one or other to write a larger discourse of our English Sheep.

Of the several
commodity &
utility coming
by Sheep, and
first of their
flesh.

Now in the next place we are to discourse of the utilities that cometh by Sheep, for as it is the meekest of all other Beasts, so as the reward of meekness, there is no part of him but is profitable to man: his flesh, blood, and milk is profitable for meat, his skin and wool both together and asunder for garments, his guts and intrails for musick, his horns and hoofs for perfuming and driving away of Serpents, and the excrements of his belly and egestion or dung, for the amending and enriching of plowed lands, and for these occasions did the Egyptians worship it for a God, for that they could see no creature in the world, but had some parts altogether unprofitable unto men, but in this they found none at all.

First of all therefore to begin with their flesh, although Physitians have their several conceits thereof, as *Galen* (who saith) that the flesh of Hares is better then the flesh of Oxen and Sheep; and *Simeon Zetbi*, who being forced to confess the goodness of Mutton or Sheeps-flesh in the beginning and middle of the Spring, yet writeth that it is full of superfluities and evill juice, and hurtful to all flegmy and moist stomachs. *Crescentiensis* also writeth, that the flesh of Sheep hath an unpleasant tast through overmuch humidity, and fit for none but for Countrey-labouring men: Indeed I grant the opinion of *Platina*, who writeth thus concerning Rams: *Ovem arietem demibus ne attingas, non modo enim ejus caro non prodest, verum etiam vehementer obest*; that is, That Rams flesh we ought never to touch, for it is not only unprofitable, but it is much hurtful: yet in England the flesh of Rams is usually eaten; either through the craft or subtilty of the Butchers, or else through Covetousness. But in many houses (as I have heard) there is a kinde of Venison made of the flesh of Rams, which is done by this means; First they take the Ram, and beat him with stripes on all parts till the flesh grow red, for such is the nature of the blood, that it will gather to the sick affected places, and there stand to comfort them, so by this means after the Ram is killed, the flesh looketh like Venison: But as in other discourses, namely, Hares and Conies, we have already shewed our hatred of all cruel meats, so also I utterly dislike this, for if it be not sufficient to kill and eat the beast, but first of all put it to Tyrannical torments, I cannot tell what will suffice, except we will deal with beasts, as *PILATE* did with *CHRIST*, who was first of all whipped and crowned with thorns, and yet afterward did crucifie him.

But for the taking away of that Rammy humour and rank moistness which is found in the Male-sheep, they use to geld them when they are young and suck their dams, or else within the compass of a year after their yeaning, whereby the flesh becometh so temperate, sweet, and savory, as any other flesh in the world; and if they passe a year, then do they use to knit them, and so in time their stones deprived of nourishment from the body by reason of knitting, do dry and consume away, or utterly fall off, whereby the whole flesh of the Beast is made very seasonable and wholesome. It is granted by all, that when they are young, that is to say, a year old, their flesh is very wholesome, and fit for nourishment of mans nature, but that they increase much phlegm, which evill is allayed by eating Vinegar and drinking wine unto it. In many places they salt their Muttons when they are killed, and so eat them out of the pickle, or else roast them in the smoak like Bacon. Within the territory of *Helvetia*, there is a publick law whereby the Butchers are forbidden to buy any forain Sheep, after the feast of St. James; that is, the five and twenty day of July, for although that after that time they grow fat, yet is their flesh then lesse wholesome, and their fat more hurtfull, then that which is gotten in the Spring of the year.

It were needless for me to set down the division of a dead Sheep into his quarters, shoulders, legs, loins, racks, heads, and purtinances, for that they are commonly known, and the relation of them can minister small learning to the Reader, but every part hath his use, even the blood that is taken from him when his throat is cut, hath his peculiar use for the nourishment of man, and above all other things the fat of his loins commonly called his sewer wherein it excelleth all other beasts whatsoever, for their reins are covered all over with fat.

Of their milk.

There is no less use of their milk not only for young, but for old persons, and as well for the rich to beautifie their tables, as for the poor to serve their hungry appetites, and there be some people in *Africk* that have no corn in all their Countrey, and therefore in stead of bread, their common food is milk, the goodness whereof is thus expressed by *Fierra*;

Quod præstat? Capra, post? Oves, inde boves.

Evermore the milk of an Ewe is best that is newest and thickest, and that which cometh from a black Sheep is preferred before that which is milked from a white, and generally there is no beast whereof

whereof we eat, but the milk thereof is good and nourishable, therefore the milk of Sheep is preferred in the second place, and there is no cause that it is put in the second place but for the fatness thereof, otherwise it deserved the first, for as the fatness maketh it less pleasant to the palate and stomach of Man, yet is it more pretious for making of Cheese; and we have shewed already that in some places as in the Island *Erythrea*, the milk of Sheep yeeldeth no whay, and that they can make no Cheese thereof, but by mingling abundance of water with it; they make abundance of Cheese in the *Apennine* hills, and in *Lyguria*; the Cheese of *Sicilia* is made of Goats and Sheeps milk, and generally Cheese made of Sheeps milk is the better the more new it is. The nature of a Sheep is to give milk eight moneths together, and in *Italy* they make Butter also of the milk of Sheep, all the Summer time unto the feast of *St. Michael* they milk them twice a day, but after that, untill they cupple with their Rams, they milk them but once a day; the faults of Cheeses made of their milk is either because they are over dry or hollow, and full of eyes and holes, or else clammy like birdlime, the last proceedeth from the want of pressing, the second through overmuch salt, and the third by overmuch drying in the Sun. And thus much shall suffice to have spoken of those things in Sheep which are fit to be eaten.

In the next place we come to discourse of their Wool, and of the shearing or clipping of Sheep, for although their flesh be pretious, yet it is not comparable in value to their fleeces: for that when they are once dead, they yeeld no more profit, but while they live they are shorn once or twice a year, for in *Egypt* they are shorn twice a year, and also in some parts of *Spain*. And it appeareth that in antient times there were great feasts at their Sheep-shearings, as is apparent in the holy Scripture in many places, and especially by the history of *Absalon*, who after he had once conceived malice against his Brother *Amnon*, he found no opportunity to execute the same, untill his Sheep-shearing feast, at which time in the presence of all his brethren the Kings sons (even at dinner) when no man suspected harm, then did *Absalon* give a sign to his wicked servants to take away his life, which they performed according to their Masters malice.

It appeareth by the words of *Pliny*, who writeth thus; *Oves non ubiq; tondentur, durat quibusdam in locis vellendi mos; quietiam nunc vellunt, ante triduo jejunas habent quo languida minus radices lane retinent*; that is, Sheep are not every where shorn, for yet unto this time in many places they do commonly observe the old custom of pulling the wool off from the Sheeps back, and they which do now pull the wool and not shear it, do alwayes cause their Sheep to fast three days before, that so being made weak the roots of the wool may not stick so fast, but come off more easily.

And indeed I am confirmed in this opinion by the *Latine* word *Vellus*, which signifieth a fleece, which can be derived from no other *Radix* or *Theam*, nor admit any other manner or kinde of notation, then a *vellendo*, that is, from pulling.

Cato also in his Book of Originals writeth thus, *Palatini collis Romæ altera pars Velleia appellata fuit, a vellenda lana ante Hetruscum tonsuram incolis monstratam*; that is to say, There was one part of the hill *Palatine* at *Rome*, which was called *Velleia*, from the pulling of wool, for it was their custom there to pull their wool, before the inhabitants learned the *Hetrurian* manner of shearing Sheep; by which testimony we see evidently the great torment that the poor Sheep were put unto when they lost their fleeces, before the invention of shearing, for it is certain by the antient pictures and statues of Men, that there was no use of shearing either hair or wool, from Men or Sheep.

But the hair of Men grew rude, and in length like Womens, and Sheep never lost their fleeces but by pulling off, and therefore *Varro* writeth, that four hundred and fifty years after the building of *Rome* there was no Barber or Sheep-shearer in all *Italy*, and that *Publius Ticinius Menas* was the first that ever brought in that custom among the *Romans*, for which there was a monument erected in writing in the publick place at *Ardea*, which untill his time was there sincerely preserved.

Now concerning the times and seasons of the year for the shearing of Sheep, it is not only hard, but also an impossible thing to set down any general rule to hold in all places. The best that ever I read is that of *Didymus*, *nec frigido adhuc, nec jam æstivo tempore, sed medio vere Oves tondendæ sunt*; That is, Sheep must neither be shorn in extreme cold weather, nor yet in the extreme heat of Summer, but in the middle of the Spring.

In some hot Countries they shear their Sheep in *April*; in temperate Countries they shear them in *May*, but in the cold Countries in *June* and *July*, and generally the best time is betwixt the Vernal Equinoctium, and the Summers solstice, that is, before the longest day, and after the days and nights be of equall length; there be some that shear their Sheep twice in a year, not for any necessity to disburden the beast of the fleece, but for opinion that the often shearing causeth the finer wool to arise, even as the often mowing of the grasse maketh it the sweeter. In the hot Countries the same day that they shear their Sheep, they also anoint them over with Oyl, the lees of old wine, and the water wherein Hops are sod, and if they be near the Sea side, three days after they drench them over head and ears in water, but if they be not near the Sea side, then they wash them with rain water sod with Salt: and hereby there cometh a double profit to the Sheep: First, for that it will kill in them all the cause of scabs for that year, so as they shall live safe from that infection: and secondly the Sheep do thereby grow to bear the longer and the softer wool. Some do shear them within doors, and some in the open sun abroad, and then they chuse the hottest

Columella.

Palladius.

Gelsus.

Shearing time
in England.

and the calmest days, and these are the things or the necessary observations, which I can learn out of the writings of the ancients about the shearing of Sheep.

Now concerning the manner of our *English* Nation, and the customs observed by us about this businesse, although it be needlesse for me to expresse, yet I cannot contain my self from relating the same, considering that we differ from other Nations. First therefore, the common time whereat we shear Sheep is in *June*, and Lambs in *July*; and first of all we wash our Sheep clean in running sweet waters, afterward letting them dry for a day or two, for by such washing all the wool is made the better and cleaner: then after two days we shear them, taking heed to their flesh, that it be no manner of way clipped with the sheares, but if it be, then doth the shearer put upon it liquid pitch, commonly called Tar, whereby it is easily cured and kept safely from the flies. The quantity of wool upon our Sheep is more then in any other Countrey of the world, for even the least among us (such as are in hard grounds) as in *Norfolk*, the uppermost part of *Kent*, *Hertfordshire*, and other places, have better and weightier fleeces then the greatest in other Nations: and for this cause the forain and *Latin* Authors do never make mention of any quantity of wool they shear from their Sheep, but of the quality.

The quantity in the least is a pound, except the Sheep have lost his wool, in the middle sort of Sheep two pounds or three pounds, as is vulgar in *Buckingham*, *Norhampton*, and *Leicester shires*: But the greatest of all in some of those places, and also in *Rumney marsh* in *Kent*, four or five pounds: and it is the manner of the Shepherds and Sheep-masters to wet their Rams, and so to keep their wool two or three years together growing upon their backs, and I have credibly heard of a Sheep in *Buckinghamshire* in the flock of the L. P. that had shorn from it at one time, one and twenty pound of wool. After the shearing of our Sheep, we do not use either to anoint or wash them, as they do in other Nations, but turn them forth without their fleeces, leaving them like meadows new mowen, with expectation of another fleece the next year. The whole course of the handling of our Sheep is thus described by the flower of our *English* Gentlemen husbands Master *Thomas Tusser*:

Wash Sheep for the better where water doth run,
And let him go cleanly and dry in the Sun,
Then shear him and spare not, at two days an end,
The sooner the better his corps will amend,
Reward not thy Sheep when ye take off his coat
With twitches, and slashes as broad as a goat:

Let not such ungentleness happen to thine
Lest flie with her gentles do make him to pine.
Let Lambs go unclipped till June be half worne,
The better the fleeces will grow to be shorne,
The Pye will discharge thee for pulling the rest,
The lighter the Sheep is, then feedeth it best.

And in another place of the husbandry of Sheep he writeth thus:

Good farme and well stored, good housing and dry,
Good corn and good dairy, good market and nigh,
Good shepherd, good till-man, good Jack and good Gill,
Makes husband and buswife their coffers to fill:
Let pasture be stored and fenced about,
And tillage set forward as needeth without.

Before you do open your purse to begin,
With anything doing for fancy within,
No storing of pasture with baggagely til,
With ragged and aged as evill as it:
Let carren and barren be shifted away,
For best is the best, whatsoever you pay.

And in another place speaking of the time of the year for gelding Rams, and selling of wool which he admonisheth should be after *Michaelmas*, he writeth thus:

Now geld with the gelder, the Ram and the Bull,
Sew ponds, amend dams, and sell Webster the wool.

But of the milking of Sheep he writeth thus:

Put Lamb fro Ewe, to milk a few,
Be not too bold, to milke and fold,
Five Ewes allow, to every Cow,
Sheep wrigling tail, hath made without fail.

And thus far *Tusser*, besides whom I finde little discourse about the husbandry of Sheep in any *English* Poet.

The value of
English wool
and the use
thereof.

And for the conclusion or rather farther demonstration of this part, concerning the quality of our *English* wool, I can use no better testimony then that of worthy Mr. *Camden*, in his *Britannia*, for writing of *Buckinghamshire* he useth these words, *Hæc tota fere campestris est, solo item argillaceo, tenaci & fecundo, Pabulis pratis innumeros ovium greges pascit, quarum mollia & tenuissima vellera ab Asiaticis usque gentibus expetuntur*; that is to say, The whole County of *Buckingham* is of a clammy, champaign, fertile soil, feeding innumerable flocks of Sheep with his rich and well-grown pastures or meadows, whose soft and fine fleeces of wool are desired of the people of *Asia*; For we know that such is the trade of Merchandise and transportation of *English* cloth, the rare fineness and smoothness thereof is admired in *Asia*; namely, in *Palestina*, and other Kingdoms of the Turk,

Turk, and therefore they have *English* houses of Merchants, both at *Aleppo*, *Tripoli*, and other places. Again speaking of *Lemster ore*, or *Lemster wool* in *Herfordshire*, he writeth thus: *Sed ei præcipua hodie gloria est a lana in circum vicinis agris (Lemster ore vocant) cui excepta Apula & Tarentina, palmam deferunt Europæi omnes.* The greatest glory of that soil is in their wool, which ariseth from Sheep, feeding in the fields and pastures adjoining thereunto, (which wool they call *Lemster ore*) and all Christendom yeeldeth praise and price unto it next after the *Apulian* and *Tarentinian* wool.

And indeed so sweet is the gain that cometh by Sheep, that in many parts of the Land there is a decay of tillage and people, for their maintenance, and therefore the said Mr. *Camden* saith most worthily, even like himself, that is honest and impartial in all his writings, for in the beginning of his description of *Northamptonshire*, where I think above all parts depopulation and destroying of Towns is most plentiful, (so that for Christians now you have sheep, and for a multitude of good house-holders, you shall have one Shepherd swain and his Dog lying upon forty shillings a year, or little more) he writeth in the words of *Hythodæus* after the commendation of the Sheep and wool of that Countrey: *Ovibus oppleta & quasi obsessa, quæ (ut Hythodæus ille dixit) tam miens esse tamque exiguo ali solebant, nunc (uti fertur) tam edaces atque indomite esse ceperunt ut homines devorent, ipsos agros, domos, oppida vastent, ac depopulentur:* which words I cannot better *English* then in the words of an *Epigrammatarian* in our age, for to this effect, according to my remembrance he writeth;

Sheep have eat up our pastures, our meadows, and our downes,
Our Mountains, our Men, our Villages and Towns;
Till now I thought the common proverb did but jest,
That sayes a black sheep is a biting beast.

Concerning the goodness of *English Wool*, and the difference of it from others, the reason is well given by *Gesner* and *Cardan*: *Lana earum molles & crispæ sunt, ideoq; nunc ut olim Milesia celebratur: nec mirum cum nullum animal venenatum mittat Anglia, & sine luporum metu pecus vagetur: nulli enim in Anglia hodie lupi reperiuntur. Rore celi sitim sedant greges, ab omni alio potu arcantur quod aque ibi ovibus sint exitiales;* that is to say, The wool of *English* Sheep is soft and curled, and therefore it is now commended as highly as ever was the *Milesian* wool in ancient time: and not without just cause, for they are neither annoy'd with the fear of any venomous Beast, nor yet troubled with Wolves, and therefore the strength of their nature and peaceable quiet wherein they live, doth breed in them the better wool; and besides they never drink, but quench their thirst with the dew of heaven. And thus much for the discourse of *English wool*.

I am never able sufficiently to describe the infinite commodities that come unto men by wool, both for gardens, for hangings, for coverings, for hats, and divers such other things, and therefore it shall not be unpleasant I trust unto the Reader, to be troubled a little with a farther discourse hereof, if I blot some paper in describing the quality of the best wool in other Nations. First of all therefore we are to remember these two things, that the best wool is soft and curled, and that the wool of the old Sheep is thicker and thinner then the wool of the younger, and the wool of the Ram followeth the same nature, of whom we will speak more in his story. Only in this place our purpose is to expresse the examination of wool as we finde it related by Authors, according to their severall Countries. Therefore as we have said already out of Mr. *Camden's* report, the *Tarentinian* and *Apulian* must have the first place, because the Sheep of those Countries live for the most part within doors, and besides that, are covered with other skins. In *Spain* they make greatest account of the black wool, and it appeareth by good History, both in our *English* Chronicle and others, that the Sheep of *Spain* were of no reckoning till they were stored with the breed of *England*. There is a little Countrey called *Pollentia* neer the *Alpes*, of the wool whereof *Martial* maketh mention, as also of the *Canusine* red wool, and therefore *Ovis Canusina* was an Emblem for pretious wool, his Verses are these:

Non tantum pullo lugentes vellere lanas,
Roma magis fuscis, vestitur Gallia ruffis,
Canusinatus nostro Syrus asserere sudet.

We have spoken already of the wool of *Istria* and *Liburnia*, which if it were not for the spinning in *Portugal*, and the Websters art thereupon, it were no better for cloth then hair. *Strabo* writeth, that the wool of *Mutina*, whereby he meaneth all the Countrey that lyeth upon the *Scutana*, is very soft and gentle, and the best of *Italy*, but that of *Liguria* and *Millain*, is good for no other use but for the garments of servants.

About *Padua* their wool is of a mean price, yet they make of it most pretious works of *Tapestry*, and *Carpets* for tables, for that which was rough and thick in ancient time was used for this purpose, and also to make garments, having the shags thereof hanging by it like rugs. There is a City called *Feltrum*, and the wool thereof by the Merchants is called *Feltriolana*, *Felt-wool*, they were wont to make garments hereof neither woven nor sewed, but baked together at the fire like hats and caps, whereof *Pliny* writeth thus, *Lana & per se coacta vestem faciunt, & si addatur acetum etiam ferro resistunt,*

resistunt, imo vero etiam ignibus novissimo sui purgamento quippe abenis coquentium extracte indumentis usu veniunt Gallorum ut arbitror invento, certe Gallicis hodie nominibus discernuntur. Wool hath this property, that if it be forced together it will make a garment of it self, and if Vinegar be put unto it, it will bear off the blow of a sword, dressed at the fire and purged to the last, for it being taken off from the brazen coffer whereon it was dressed, it served for clothing, being as he thought an invention of the Gals, because it was known by French names, and from hence we must see the beginning of our felt-hats. The *Betican* wool is celebrated by *Juvenal*, when he speaketh how *Caullus* fearing shipwrack, was about to cast him out into the water;

*Infecit natura pecus, sed & egregius fons
Viribus occultis & Beticus adjuvat aer.*

Of the colours
of Wool.

For the colour of Wool in that Countrey groweth mixed, not by any art, but naturally through their food, or their drink, or the operation of the air. The *Lavoditian* Wool is also celebrated, not only for the softnesse of it, but for the colour, for that it is as black as any Raven, and yet there are some there of other colours, and for this cause the *Spanish* Wool is commended, especially *Turditania*, and *Coraxi* (as *Strabo* writeth) for he saith the gloss of the Wool was not only beautiful for the purity of the black, but also it will spin out into so thin a thread as was admirable, and therefore in his time they sold a Ram of that Countrey for a talent. I may speak also of the Wool of *Parma*, and *Altinum*, whereof *Martial* made this distichon;

*Velleribus primis Appulia; Parma secundis
Nobilis, Altinum tertia laudat ovis.*

We may also read how for the ornament of wool, there have been divers colours invented by art, and the colours have given names to the Wool, as *Simatulis lana*, wool of Sea-water-colour, some colour taken from an *Amethyst* stone, some from brightness or clearness, some from Saffron, some from Roses, from Mirtles, from Nuts, from Almonds, from Wax, from the Crow, as *Color coraxicus*, and from the purple fish, as from the *Colasine*, or the *Tyrian*, whereof *Virgil* writeth thus;

*He quoque non cura nobis levior tuenda,
Nec minor usus erit, quamvis Milesia magno
Vellera mutantur Tyrios incocta rubores.*

From hence cometh the chalke colour, the Lettice colour, the Loot-tree root, the red colour, the Azure colour, and the Star colour. There is an herb called Fullers-herb, which doth soften Wool, and make it apt to take colour, and whereas generally there are but two colours, black and white that are simple, the antients not knowing how to dye Wool, did paint it on the outside; for the triumphing garments in *Homer* were painted garments. The *Phrygian* garments were colours wrought with needle-work, and there was one *Attalus* a King in *Asia*, which did first of all invent the weaving of Wool and Gold together, whereupon came the name of *Vestis Attalica*, for a garment of cloth of gold.

The *Babylonians* and the *Alexandrians* loved diversity of colours in their garments also; and therefore *Metellus Scipio* made a law of death against all such as should buy a *Babylonish* garment, that was carpets or beds to eat upon for eight hundred *Sesterces*. The shearing of cloth or garments made of shorne cloth, did first of all begin in the dayes of *St. Augustine*, as *Fenistella* writeth. The garments like poppies had the original before the time of *Lucilius* the Poet, as he maketh mention in *Tarquanius*.

The lasting of
Wool.

There was a fashion in antient time among the *Romans*, that a distaffe with Wool upon it, was carryed after Virgins when they were going to be married: the reason thereof was this (as *Varro* writeth) for that there was one *Tanaquillus*, or, *Caia Cecilia*, whose Distaffe and Wool had endured in the Temple of *Sangi* many hundred years, and that *Servius Tullus* made him a cloke of that Wool, which he never used but in the temple of Fortune, and that that garment afterwards continued 500 and 60 years, being neither consumed by moths, nor yet growing threadbare, to the great admiration of all which either saw it or heard it. And thus much I thought good to adde in this place concerning the diversity of Wool, distinguished naturally according to several regions, or else artificially after sundry tinctures. Likewise of the mixing and mingling of Wool one with another, and diversities of garments, and lastly of the lasting and enduring of Wool and Garments, for it ought to be no wonder unto a reasonable man, that a woollen garment not eaten by moths, nor worn out by use, should last many hundred years, for seeing it is not of any cold or earthly nature, but hot and dry, there is good cause why it should remain long without putrification: and thus much in stead of many things for the Wool of Sheep.

The use of
Sheep skins.

As we have heard of the manifold use of the Wool of Sheep, so may we say very much of the Skins of Sheep for garments and other uses: and therefore when the Wool is detracted and pulled off from them, they are applyed to Buskins, Brest-plates, Shooes, Gloves, Stomachers, and other uses, for they are also dyed and changed by tincture into other colours, and also when the Wool

Wool is taken off from them, they dresse them very smooth and stretch them very thin, whereof is made writing parchment, such as is commonly used at this day in *England*, and I have known it practised at *Tocetour*, called once *Tripontium* in the County of *Northampton*: and if any part of it will not stretch but remain stiffe and thick, thereof they make writing tables, whereon they write with a pencil of Iron or Brasse; and afterward deface and rase it out again with a sponge or linnen cloth. Hereof also (I mean the skins of Sheep) cometh the coverings of Books, and if at any time they be hard, stubborn, and stiffe, then they soften it with the Sheeps sewer or tallow.

The bones of Sheep have also their use and employment for the hafting of knives. The *Rhetians* of the urine of Sheep do make a kinde of counterfeit Nitre. And *Rassius* saith, that if a man would change any part of his Horses hair, as on the forehead, take away the black hairs and put them into white, let him take a linnen cloth and wet it in boyling milk of Sheep, and put it so hot upon the place that he would have changed, so oftentimes together till the hair come off with a little rubbing, afterward let him wet the same cloth in cold Sheeps milk, and lay it to the place two or three days together, and the hair will arise very white (thus saith he;) and there are certain flies or moths which are very hurtful to gardens, if a man hang up the panch of a Sheep, and leave for them a passage or hole into it, they will all forsake the flowers and herbs, and gather into that ventricle, which being done two or three times together, make a quit riddance of all their hurts, if you please to make an end of them.

The Swallows take off from the backs of Sheep flocks of Wool, wherewithal the provident Birds *Ruellius* do make their nests to lodge their young ones after they be hatched.

With the dung of Sheep they compasse and fat the earth, it being excellent and above all other *Of the dung of* dung necessary for the benefit and encrease of Corn, except Pigeons and Hens dung which is hotter, and the sandy land is fittest to be amended with Sheeps dung, also plants and trees if you mingle therewith ashes.

Now we are to proceed to the gentle disposition of Sheep, and to expresse their inward qualities and moral uses; and first of all considering the innocency of this Beast, I marvel from whence the *Gortynian Cretian* custom proceeded, which caused Adulterers for their punishment to ride throughout the whole City crowned with Wool, except that so they might signifie his tender and delicate effeminacy; and therefore as some are crowned with gold in token of virtue and valiant acts, so vice (especially the wantonness of the flesh) deserveth to be crowned with Wool, for the looseness and beastliness thereof, not because such a crown was a sufficient punishment, for an opprobry and continual badge of ignominy, even as forgerers and perjured persons ride with papers on their heads, upon bare horse backs, and so forth.

By the behaviour of Sheep at their Rutting or Ramming time the Shepherds observe tempests, rains, and change of weather. If they be very lustful and leap often upon their females, but if they be slow and backward, then is the poor naked man glad, for that thereby he conceiveth hope of a gentle Winter, and temperate weather. Also if in the end of Autumn they stamp upon the ground with their feet, it betokeneth hard weather, cold Winter, much Frost and Snow, about the time of the first rising of the *Pleiades* or seven Stars. Which thing is thus Poetically expressed by *Avienus*;

— Si deniq; terram
Langera fodiant caput, aut tendantur in arcton,
 Cum madidus per marmora turbida condit
Pleiadas occasus, cum brumæ in frigora cedit
Frugifer Autumnus, ruet æthera concitus imber.

Concerning the simplicity of Sheep, I must say more, and also of their innocency, yet the simplicity thereof is such, and so much, that it may well be termed folly, or *Animal ineptissimum*, for *Aristotle* writeth thus of it, *Repit in deserta sine causa, hyeme obstante ipsum sepe egreditur stabulo, occupatum a nive, nisi pastor compulerit, abire non vult, sed perit desistens, nisi mares a pastore ducantur, ita enim reliquus grex sequitur*; that is, Without cause it wandereth into desert places, and in the winter time when the air is filled with cold winds, and the earth hardened with hoare frostes, then it forsaketh and goeth out of his warm coat or stable, and being in the cold Snow, there it will tarry and perish, were it not for the care of the Shepherd, for he taketh one of the Rams by the horns, and draweth him in adoors, then do all the residue follow after. They are also very obedient to the voice and call of the Shepherds, and to the barking and cry of their Dogs, and no lesse is their love one toward another, every way commendable, for one of them pityeth and sorroweth for the harm of another, and when the heat of Sun offendeth them, *Albertus* writeth, that one of them interposeth his body to shadow the other.

Their Dam or Ewe loveth her Lamb, and knoweth it by smelling to the hinder parts, and if at any time the Dam do not love or make reckoning of her young one, they give her the herb Pennywort or Water-wall to drink in water, and then as the *Scholias* affirmeth, natural affection increaseth in her. Of the foolishness of Sheep, there was an Emblem to signifie by a man riding upon a golden Fleece, one ruled by his servant or wife;

*Tranat aquas residens pretioso in vellere Phryxus,
Et flavam impavidus per mare scandit ovem.
Ecquid id est? vir sensu habeti sed divite goza,
Conjugis aut servi quem regit arbitrium.*

And therefore *Aristophanes* reproving the stolidity of the *Athenians*, calleth them Sheep: And *Origen* writing upon *Leviticus*, saith; *Ovium immolatio affectuum stultorum, & irrationabilium correctio*. The Sacrificing and killing of Sheep, is nothing else but the correction of our foolish and unreasonable affections. We have shewed already in the story of the Goat, of a Goat that nourished a Wolves whelps, which in the end did destroy her, and the self same is ascribed also to a Sheep.

Love and hatred of Sheep.

Aristotle.

They observe great love and concord with Goats, and live in flocks together, and for this cause it happeneth, that more Goats are destroyed by Wolves then Sheep, for that the Goats forsake their fellows, and straggle abroad for food, but the Sheep very seldom: and it is observed, that if a Wolf kill a Sheep, and afterwards any garments be made of the wooll of that Sheep, they easily and more speedily breed Lice and vermin then any other, and also procure itch in the bodies of them that wear them, whereof *Cardan* giveth this reason; *Haud mirum videri debet ovis pellem a Lupo dilaniate pruritum movere, nam ob vehementem metum, tum etiam ob contrariam naturam mali afficitur, & si mori enim ultimum sit supplicium, magis tamen afficitur corpus in uno quam in altero genere, metuit homo magis in mari fluctuans quam coram hostibus*. It ought not (saith he) move any man to wonder, that the wooll of a Sheep torn asunder by a Wolf should beget and breed itch, for that affection ariseth from both, from the vehemency of fear before it be dead through the sight and sense of the Wolf, and also by reason of a contrary nature that is oppressed and devoured by another, and although death be the last punishment, yet we see divers affections follow dead carcases after death, and as a man is more afraid of the Sea when he is in peril of death therein, then of the face of his enemy, so is it in this case, betwixt the Sheep and the Wolf.

Coelius.

The same *Cardan* affirmeth, that Sheep are afraid of Wolves even after death; for the wooll of a Sheeps skin will fall off in the presence of a Wolf. Unto this subscribeth *Oppianus*, or rather *Albertus* received it from *Oppianus*, and furthermore (it is said) that if the strings of a Sheeps and Wolfs guts be fastened to one and the same Instrument, they will never make good Harmony; and furthermore, if a Drum be made of a Sheeps skin, and another of the Wolfs skin, the Drum of the Sheeps skin will jar, and sound unpleasantly in the presence of the Wolfs skin: but of these things I have no certain grounds, only I say, there may be natural reason from the substance and matter, both of one and other, why this accident may chance without discord and hatred of each other, but from the difference and solidity of the matter; as for example; the guts of a Wolf are strong and hard, and will abide greater strain then the guts of a Sheep; if therefore the Musitian will strain the one like the other, it must needs fly asunder: likewise the skin will give a deeper and louder sound upon a Drum, by reason of the substance, then a Sheeps: and so some may ignorantly ascribe that difference to an antipathy in nature, for as a Candle in the presence of a great Torch or Fire, giveth less light to the eye, so doth a drum made of a Sheeps skin, less sound to the sense of hearing, in the presence of another made of a stronger and harder beasts skin: and to conclude, as a twine thread will not hold stretching in the presence (I mean in comparison) of a silk thread, although it be of the same quantity, even so will not a Lute string made of a Sheeps gut, in comparison of another made out of a Wolf. But all the question is, how it cometh to pass, that one of the skins hanged up in the presence of the other should be consumed before other, that is, a Sheeps skin in the presence of the Wolfs, as a Gooses skin will loose the feathers before the Eagles. The answer is easie, for the dryer that the body is, the less excremental humor it containeth: and so will last the longer, and all wilde silvestrial beasts are dryer then the tame, modern, and domestical; as for example, the Wolf then the Sheep; the Lion then the Dog; the Pheasant then the Cock; the Eagle then the Goose: and for these causes the skins of the one do waste before the other, not for fear or secret opposition, but for want of better enduring substance.

The Poets do ascribe unto their Gods *Lanceos pedes*, feet made of Wooll, for that they come softly and suddenly without noise to take vengeance upon malefactors; and therefore when they describe *Saturn* tyed up a whole year with bands of wooll, their meaning is, to shew how with patience he forbore his wrath and indignation. Bees are enemies to Sheep; and there are no cattel that do so much enrich men as Sheep and Bees.

There is a story in *Suidas* and *Hesychius*, of one *Chrysamis*, who was very rich in Sheep in the Island of *Ceus*, and there came every year an Eel, and stole away his best Sheep among all the flock, at last he met with it and slew it; afterward the ghost of the Eel appeared to him in the night, warning him (for fear of other harm) to see him buried. *Chrysamis* neglected it, and therefore he and all his family perished. By which story I cannot guess any other meaning, but that some man stole away his Sheep, and for that he took upon him a private revenge, most inhumanely suffering him to lie unburied and setting more by a beast then the life of a man, as a just punishment of God he perished: and thus I conclude this natural and moral discourse of the Sheep with that fiction of *Esop*, who writeth, that on a time as the Shepheards were making merry in a Cottage, and eating a Sheep, the Wolf came and looked in, saying unto them: *Atqui ego si tantum facerem, quantum ciceretis tumultum?* If I should eat a Sheep as you do, you would all rise in an uprore: which is fitted against them that make good laws, and observe none themselves.

Of

Of the RAM.



Having thus made a general description of the Sheep, wherein we have spent no more time than was fit and convenient, we are now forced to the several species and kinds, and first of all, order and nature teacheth us to discourse of the male, which in our English language is called a Tup or Ram, derived I do not doubt from the French, *Ran*, although also they call him *Belier*; the Germans, *Hoden wider*, and *Hammell*; the Italians, *Montone*, and *Ariete*; the Spaniards, *Carnero*; the Helvetians, *Ramchen*; the Grecians in ancient time *Krios*, *Ariacha*, *Cerafe*, and now in these days *Kriare*; the Hebrews, *Ail*, or *Eel*; the Chaldees plurally, *Dikerin*; the Arabians, *Kabfa*; and the Persians, *Nerameisch*. Now concerning the Greek and Latine names, there is some difference among the learned about their notation, etymology, or derivation; for although they all agree, that *Aries est dux & maritus pecorum*, yet they cannot consent from what root, stem, or fountain, to fetch the same. *Isidorus* bringeth *Aries ab aris*, that is, from the Altars, because the sacrificing of this beast was among all other Sheep permitted, and none but this except the Lambs. Others derive it of *Arer*, which signifies

The several names of Rams.

nifieth vertue, becaute that the strength and vigor of Sheep lyeth in this above all other, for there is in his horns incredible strength, in his minde or inwards part incredible courage and magnanimity, but the truest derivation is from the *Greek* word *Arneios*. Some *Latines* call him also *Nefrens*, and plurally *Nefrendes*, for distinction from the Weather or gelded Sheep, for the stones were also called *Nefrendes* and *Nebrundines*, and the Epithets of this Beast are, horn-bearer, insolent, violent, fighting, fearful, writhen, swift, wooll-bearer, leaping, head-long, warriour, and in *Greek*, meek, gentle, and familiar, and is not known by the name *Celos*, for that it leadeth the whole flock to the pastures, and back again to the folds. And thus much may suffice for the name and demonstrative appellation of this Beast; now we will proceed forward to the other parts of his story, not reiterating those things which it hath in common with the Sheep already described, but only touching his special and inseparable proper qualities.

The chief of
Rams for
breed.

First of all for the election of Rams fit to be the father of the flock, and to generate and increase issue, and therefore *Varro* and others, call him *Admissarius Aries*, a stallion Ram. They were wont to make choise of such an one from an Ewe that had brought forth twins, for that it is conceived, he will also multiply twins; for first in the choise of a Ram, they look unto his breed and flock from whence he is descended, and then to his form and outward parts: as in Horses, Oxen, Dogs, Lions, and almost all creatures, there are races and stocks preferred one before another, so is it also in Sheep, and therefore require that he be *Boni seminis pecus*, a Ram of a good breed, and next of the form and outward parts, although some never look further then colour; but *Columella* adviseth that his wooll, palate of his mouth, and tongue be all of one colour, for if the mouth and tongue be spotted, such also will be the issue and Lambs he begetteth, for we have shewed you already, that the Lamb for the most part followeth the colour of the Rams mouth, such a Ram is thus described by the Poet.

Palladius.

*Illum autem quamvis aries sit candidus ipse,
Nigra subest udo tantum cui lingua palato,
Rejice, ne maculis infuscet vellera pullis
Nascentium.*

Crescentius.

And therefore for as much as the young ones do commonly resemble the father, and bear some notes of his colour, let your Ram be all black, or all white, and in no case party-coloured; and for the stature and habit of his body let it be tall and straight; a large belly, hanging down and well cloathed with wooll; a tail very long and rough; a broad fore-head; large stones; crooked winding horns toward his snout, having his ears covered with wooll, a large breast, broad shoulders and buttocks; his fleece pressed close to his body, and the wooll not thin nor standing up. And for the horns, although in all Regions Rams have not horns, yet for windy and cold Countries the great horned Beasts are to be preferred, for that they are better able through that defence to bear off winde and weather, yet if the climate be temperate and warm, it is better to have a Ram without horns, because the horned Beast being not ignorant what weapons he beareth on his head, is apter to fight then the pold Sheep, and also more luxurious among the Ewes, for he will not endure a rival or companion-husband, although his own strength and nature cannot cover them all: but the pold Ram on the other side is not ignorant how naked and bare and unarmed is his head, and therefore like a true coward, sleepeeth in a whole skin, being nothing so harmful to his corrivals, nor to the females, but well indureth partnership in the work of generation.

Columella.

Albertus.
The resemblance
betwixt
the Sun and
the Ram.
Macrobius.

There is no Beast in the world that so much participateth with the nature of the Sun as the Ram, for from the Autumnal *Equinoctium* unto the Vernal, as the Sun keepeth the right hand of the Hemisphere, so doth the Ram lie upon his right side; and in the Summer season as the Sun keepeth the other hand of the Hemisphere, so doth the Ram lie upon his other side. And for this cause the *Lybians* which worshipped *Ammon*, that is the Sun, did picture him with a great pair of Rams horns. Also, although in the heavenly or celestial sphere or Zodiack there be nothing first or last, yet the *Egyptians* have placed the Ram in the first place, for their Astronomers affirm, that they have found out by diligent calculation, that the same day which was the beginning of the worlds light on the face of the Earth, then was the sign *Aries* in the midst of Heaven, and because the middle of Heaven is as it were the crown or upper-most part of the World, therefore the Ram hath the first and uppermost place, because it is an Equinoctial sign, making the days and nights of equal length, for twice in the year doth the Sun pass through that sign, the Ram sitting as it were judge and arbiter twice every year, betwixt the day and night.

Cælius.
The sign of
the Ram in the
Zodiack.

Poetical fictions
& riddles.

There be Poetical fictions how the Ram came into the Zodiack; for some say, that when *Bacchus* led his Army through the Deserts of *Lybia*, wherein they were all ready to perish for water, there appeared to him a goodly Ram, who shewed him a most beautiful and plentiful fountain which relieved and preserved them all; afterward *Bacchus* in remembrance of that good turn erected a Temple to *Jupiter Ammonius*, also in that place for so quenching their thirst, placed there his Image with Rams horns, and translated that Ram into the Zodiack among the Stars, that when the Sun should pass through that sign, all the creatures of the world should be fresh, green and lively, for the same cause that he had delivered him and his Host from perishing by thirst, and made him the Captain of all the residue of the signes, for that he was an able and wise Leader of Souldiers. Other again tell the tale somewhat different, for they say; At what time *Bacchus* ruled *Egypt*, there came to him one

Ammon,

Ammon, a great rich man in *Africa*, giving to *Bacchus* great store of wealth and cattel to procure favour unto him, and that he might be reckoned an inventor of some things: for requital whereof *Bacchus* gave him the land of *Thebes* in *Egypt*, to keep his Sheep and Cattel, and afterward for that invention he was pictured with Rams horns on his head, for remembrance that he brought the first Sheep into *Egypt*; and *Bacchus* also placed the sign of the Ram in Heaven: These and such like fictions there are about all the signes of Heaven, but the truer observation and reason we have shewed before out of the *Egyptians* learning, and therefore I will cease from any farther prosecution of these fables.

They ought to be two year old at least before you suffer them to joyn in copulation with the Ewes, and for two months before to be separate and fed more plentifully then at other times, that so at their return they may more eagerly and perfectly fill the Ewes: and then also before copulation, and at the time that they are permitted in some Countries they give them Barly, and mix Onions with their meat, and feed them with the herb *Salomons* seal, for all these are vertuous to stir up and inchease their nature. And likewise one kinde of the *Satyrium* and salt water, as we have said in the discourse aforegoing.

Now, at the time of their copulation they have a peculiar voice to draw and allure their females differing from the common bleating, whereof the Poet speaketh, *Blaterat hinc aries, & pia balat ovis*: This Beast may continue in copulation, and be preserved for the generation of Lambs till he be eight year old; and it is their nature the elder they be, to seek out for their fellows the elder Ewes or females, forsaking the younger by a kinde of natural wisdom.

Now concerning the time of their admission to copulation, although we have touched it in the former Treatise, yet we must add somewhat more in this place. In some places they suffer them in *April*, and some in *June*, that so they may be past danger before *Winter*, and be brought forth in the *Autumn*, when the gras after harvest is sweet, but the best is in *October*, for then the *Winter* will be over-passed before the Lamb come forth of his dams belly. Great is the rage of these Beasts at their copulation, for they fight irefully till one of them have the victory; and for this cause *Arietat* among the Writers is a word to expresse singular violence:

Arietat in portas & duros objice postes.

And *Silvin* of *Dioxippus*,

Arietat in primos objicitq; immania membra.

And so *Seneca* in his book of Anger, *Magno imperatori antequam acies inter se arietarent, cor exiluit*: And indeed great is the violence of Rams, for it is reported that many times in *Rhetia* to try their violence, they hold betwixt the fighting of Rams a stick, or bat of Corn-tree, which in a bout or two they utterly diminish and bruise in pieces.

There is a known fable in *Abstenius*, of the Wolf that found a couple of Rams, and told them that he must have one of them to his dinner, and bad them agree betwixt themselves, to whose lot that death should happen, for one of them must die; the two Rams agreed together, that the Wolf should stand in the middle of the close, and that they twain should part one into one corner, and the other into the other corner of the field, and so come running to the Wolf, and he that came last should lose his life to the Wolfs mercy; the Wolf agreed to this their device, and chose his standing, while the Rams consented with their horns, when they came upon him to make him sure enough from hurting any more Sheep: forth therefore went the Rams, each of them unto his quarter, one into the East, and the other into the West, the Wolf standing joyfully in the midst, laughing at the Rams destruction; then began the two Rams to set forward with all their violence, one of them so attending and observing the other, as that they might both meet together upon the Wolf, and so they did with vengeance to their enemy; for having him betwixt their horns they crushed his ribs in pieces, and he fell down without stomach to Rams flesh. This invention, although it have another moral, yet it is material to be inserted into this place to shew the violence of Rams; and from this came so many warlike inventions called *Arietes*, wherewithal they push down the walls of Cities, as the Readers may see in *Vitruvius*, *Valtuinus*, and *Ammianus*, for they say that the warlike Ram was made of wood, and covered over with shels of *Tortoyes*, to the intent it should not be burned when it was set to a wall, and it was also covered with the skins of sack-cloth by rows artificially contrived, within the same was a beam which was pointed with a crooked Iron, and therefore called a Ram, or rather because the front was so hard that it overthrew walls, when by the violent strength of men it was forced upon them; and whereas it was shaped over with *Tortoise* shels, it was for the true resemblance it bare therewith; for like as a *Tortoise* doth sometime put forth his head, and again sometime pull it in, so also doth the Ram sometime put forth the sicle, and sometime pull it in, and hide it within the frame, so that by this engine they did not over-turn the walls, but also they caused the stones to flie upon the enemies like thunder-bolts, striking them down on every side, and wounding with their fall or stroke like the blows of an armed man; and against these forces there were counter-forces devised on the part of the besieged, for because the greatness thereof was such as it could not be moved without singular note and ostentation, it gave the besieged time to oppose against it their instruments of war for their safeguard, such were called

Didymus.

Aristotle.

The best time of copulation.

Their rage in Ramming time.

Martial and warlike inventions called Rams.

Cyloitra,

Culcitra, Laquei, Lapi ferrum, made like a pair of tongs, whereby as *Polyænus* writeth, many times it came to pass, that when the wall was overthrown the enemies durst not enter, saying: *Certe hostes sponte ab obsessis destructa moenia metuentes ingredi in urbem non audebant.* And thus much for the force of Rams both their true and natural strength, and also their artificial imitation by men.

Now on the other side the wise shepherds want not devices to restrain the wrath of these impetuous Beasts. For *Epicharmus* the *Syracusan* saith, if there be a hole bored in the backer part of his crooked horn neer his ear, it is very profitable to be followed, for seeing that he is a Captain of the flock, and that he leadeth all the residue, it is most necessary that his health and safe-guard be principally regarded, and therefore the ancient shepherds were wont to appoint the Captain of the flock from the prime and first appearance of his horns, and to give him his name, whereof he took knowledge, and would lead and go before them at the appointment and direction of his Keeper.

When he is angry he beateth the ground with his foot, and they were wont to hang a board of a foot broad, wherein were droven many sharp nails with the points towards the head, so that when the Beast did offer to fight, with his own force he woundeth his fore-head. They were wont also to hang a shrimp at the horn of the Ram, and then the Wolf will never set upon their flocks.

Moral uses of
Rams horns,
Ælianus.

And concerning their horns which are the noblest parts of their body, most regarded, yet I must speak more, for there was wont to be every year amongst the *Indians* a fight betwixt men, wilde Beasts, Bulls, and tame Rams: and a murtherer in ancient time was wont to be put to death by a Ram, for by art the Beast was so instructed, never to leave him till he had dashed out his brains.

And the story of
Plutarch.

It is reported of a Rams horns consecrated at *Delos*, brought from the coast of the red Sea, that weighed twenty and six pounds, being two cubits, and eight fingers in length. There was a Ram in the flocks of *Pericles*, that had but one horn, whereupon when *Lampon* the Poet had looked, he said: *Ex duabus quæ in urbe vigerent factionibus, fore ut altera obscurata ad unum Periclem, apud quem visum foret portentum resideret civitatis potentia.* That whereas there were two contrary raging factions in the City, it should happen that *Pericles*, from whose possessions that monster came, should obscure the one, and take the whole government of the City.

Cælius.

Cardan.

It is reported by *Rafis* & *Albertus*, that if the horns of a Ram be buried in the earth, they will turn in to the herb *Spirage*; for rottenness and putrefaction is the mother of many creatures and herbs. There was, as *Aristotle* reporteth in his *Wonders*, a childe born with a Rams head: and it is affirmed by *Ovid*, that *Medea* inclosed an old decrepit Ram in a brazen vessel, with certain kinde of medicines, and afterwards at the opening of the said vessel, she received a young Lamb, bred upon the Metamorphosis of his body.

The story of
Phryxus and
the Ram with
a golden
fleece.
Apollonius.

Concerning *Phryxus*, whereof we have spoken in the former part of our discourse of the Sheep, there is this story. He was the son of *Athaman*, and *Nepheles*: Afterward his mother being dead, he feared the treachery of his mother in law, and step-dame *Inus*, and therefore with his sister *Helle*, by the consent of their Father, he swam over a narrow arm of the Sea upon the back of a Ram, carrying a golden fleece, which before that time his Father had bestowed upon him. His sister *Helle* being terrified with the great roaring of the water, fell off from the Rams back into the Sea, and thereof came the name of *Hellepont*, of *Helle* the Virgin, and *Pontus*, the Sea, but he came safely to *Colchis* to King *Aetes*, where, by the voyce of a Ram, who spake like a man, he was commanded to offer and dedicate him to *Jupiter*, surnamed *Phryxus*, and also that golden fleece was hanged up and reserved in the Temple of *Colchis*, until *Jason* by the help of *Medea* aforesaid, did fetch it away, and the Ram was placed among the Stars in his true shape, and was called *Phryxus*, of *Phryxus*, who was the Father of the *Phrygian* Nation.

Hermolaus.

Of this fabulous tale, there are many explications and conjectural tales among the learned, not unprofitable to be rehearsed in this place. *Cælius* and *Palephatus* say, that the Ram was a ship, whose badge was a Ram, provided by *Athaman* for his son to sail into *Phrygia*: and some say, that *Aries* was the name of a man that was his foster-father, by whose counsel and charge he was delivered from his step-mother *Inus*.

Apollonius.
Gyraldus.
The fleece of
Colchis.

Other say, that there was a Book of parchment made of a Rams skin, containing the perfect way to make gold, called *Alchimy*, and thereby *Phryxus* got away. But in *Athens* there was reserved the Image of this *Phryxus*, offering the Ram (upon which he was born over the Sea) to the God *Laphystius*: and whereas there are in *Colchis* certain Rivers out of which there is gold growing, and oftentimes found, whereupon some of them have received their name, as *Chrysorrhoa*, and the men of that Countrey said to be greatly enriched thereby, they gave occasion of all the Poetical fictions about the golden fleece. There are in some places of *Africk* certain Sheep, whose wooll hath the colour of gold, and it may be, that from this occasion came the talk of golden fleeces. It is said, that when *Atræus* reigned in *Peloponnesus*, he vowed to *Diana* the best whatsoever should be brought forth in his flock, and it fortuneth that there was yeared a golden Lamb, and therefore he neglecting his vow, did not offer it, but shut it up in his chest. Afterward when he gloryed and boasted of that matter, his brother *Thyestes* greatly envied him, and counterfeiting love to his wife *Aerope*, received from her the golden Lamb. Then being in possession thereof, he contradicted *Atræus* before the people, affirming that he that had the golden Lamb ought to be King, and to reign among them, and so laid a wager of the whole Government or Kingdom thereof with *Atræus*, where-

Tzetzes.

whereunto he yeelded, but *Jupiter* by *Mercury* discovered the fraud, and so *Thyestes* took him to flight, and the Lamb was commanded to be offered to the Sun, and so I conclude this discourse with the verses of *Marial*:

*Mollia Phryxæi secuisti colla mariti,
Hoc meruit tunicam qui tibi saepe debet.*

And seeing that I have entered into the discourse of these Poetical fables, or rather riddles, which seem to be outwardly cloathed with impossibilities, I trust that the Reader will give me leave a little to prosecute other Narrations, as that *Neptune* transforming himself into a Ram, deceived and deflowered the Virgin *Bisaltis*, and the Ancients when they swore in jest and merriment, were wont to swear by a Ram, or a Goose. When the Gyants waged war with the Gods, all of the Gods (as the Poets write) took unto them several forms, and *Jupiter* the form of a Ram, whereof *Ovid* writeth, he was called *Jupiter Ammonius*:

*Unde recurvis
Nunc quoque formatis Lybis est cum cornibus Ammon.*

There be some that say that at what time *Hercules* desired very earnestly to see *Jupiter*, whereunto he was very unwilling, yet he cut off a Rams head, and pulled off his thick woolly rough skin, and put it upon him, and so in that likeness appeared to *Hercules*, and for this cause the *Thebanes* to this day do not kill rams, but spare them like sanctified things, except one once in a year, which they sacrifice to *Jupiter*, and say, that *Jupiter* was called *Ammonius aries*, because that his answers were mystical, secret and crooked, like a Rams horn.

Now concerning the sacrificing of Rams, we know that God himself in his Word, permitted the same to the people of the *Jews*, and therefore it cannot be but material for us to adde something also to the discourse before recited in the story of the Sheep. The *Gentiles* when they sacrificed a Ram, they roasted his intrails upon a spit or broach, and there were certain days of Sacrifice called *Dies Agonales*, wherein the principal Ram of every flock after combate or fighting was slain and sacrificed for the safeguard of the residue to *Janus*, and others by the King:

*Ita rex placare sacrorum
Numina lanigeræ conjuge debet Ovis.*

There was at *Tanagrum* a statue of *Mercury*, carrying a Ram (and therefore he is called the *Kriophoros Hermes*, and by that name was worshipped of all the *Tanagreans*. Now there was a cunning workman of *Calamis* that made that statue, for they say, that when the City was grievously afflicted with a pestilence, *Mercury* by carrying a Ram about the walls, delivered the same, and therefore they did not only procure that statue for *Mercury*, but also ordained that every year one of their most beautiful young men should carry a Sheep on his shoulder round about the walls. In *January* they sacrificed to *Jupiter* a Ram, and in *February* a Weather. *Pliny* writeth a strange Riddle, which is this; *Cinnamonum in Æthiopia gignitur, neque matitur nisi permiserit Deus*. There is Cinamon growing in *Æthiopia*, and yet it is not reaped by men, except the God thereof gave permission or leave, whereby some understand *Jupiter*, whom they called *Sabin*, and the *Latines*, *Assabinus*. Now *Pliny* saith, that if they had sacrificed forty and four Oxen, Buck-goats and Rams, with their intrails, they purchased leave to gather that Cinamon.

When the *Romans* observed their *Soli-Taurilia*, they sacrificed a Bull, a Goat, a Ram, and a Bore; but unto *Jupiter* they held it not lawful to offer a Ram. *Ulysses* offered to *Neptune* a Ram, a Bull and a Boar; and to conclude this discourse of the Rams sacrifices, I finde a story worthy the noting, recorded by *Paulus Venetus*, although it be altogether superstitious and full of humane blindness and error.

There is a City of *Tartary* called *Sachion*, the Inhabitants whereof are *Mahometans* and Idolaters; as soon as any of them have a son born, he presently commendeth him to one Idols tuition and protection or other: and that year together with his young Son he nourisheth a Ram tamed in his own house: at the years end, he offereth his Son and the Ram at the next festival day of that Idoll which he hath chosen; that is, he presenteth his childe and killeth his Ram, with great solemnity and ceremony in the presence of all his kindred, friends, neighbours, and acquaintance, and maketh earnest request to that Idoll to protect his son, and to guide and govern him all the time of his life, and therefore he hangeth up the flesh of that Ram in his presence, and afterward they take away again the same flesh, and carry it to another private place, wherewith the said Father and all the Kindred assembled do make a great and rich feast, reserving the bones for religions sake: And thus we see how miserable men beguiled with error, do not only make shew of false Religion, but also play the hypocrites in that which is erroneous, thinking it an easie thing to deceive Almighty God.

Concerning other things of Rams, they concur with that which is said already of Sheep in general, except their medicinal parts, which I will reserve to the due place: And herein adde one thing more of the horns of the *Rhetian* Rams, and in some places of *Italy*, namely, that after

they be five, six, or seaven year old, they bring forth under their great horns two other little horns, and that these Rams are weak of body, and have but rough and course wooll. In other places, if at any time they chance to bear more horns then two, it is prodigious and unnatural. And thus much of the Ram.

Of the WEATHER-SHEEP.

Although this Beast have all things in common with the Ram aforesaid, for he is a male-sheep, and in nature differeth not from him, but only by the art of man, I might very well have con-founded and conjoyned his story with the precedent: but seeing that all Nations do distinguish him from the Ram, because of one property or defect of him, for that he is not fit for generation, I will follow the stream, and not strive against my Authors, nor swarve from their method. Therefore in Latine it is call'd *Vervex quasi versa natura*, for that his natural seed is changed and turn'd in him, for his stones are taken away, and so he remaineth libbed and gelded, being an Eunuch among Beasts. The Grecians call him *Krion Tomian*, that is, a gelded Ram, for they have not one word to express him. The Latines do also call him *Seclarius*; and *Festus* rendreth this reason thereof, *Quia eum sequantur agni*, because the little Lambs love his company and follow him: and indeed by reason of his unaptness to generation, the Ewes forsake his company, and the Rams cannot endure him, therefore in stead of other he associateth himself with the Lambs. In some parts of Germany they call him *Frischling*, and also *Hammel*, which word seemeth to be derived from the Arabian word *Lesan Alhamel*, a Rams tongue. The Italians call him *Castrone*, *Castrato*, and *Montone*; the French *Mouton*; and the Illyrians, *Beram*.

Concerning the gelding of Rams or making of Weathers, I have not much more to say, then that which is already expressed in the general tractate of the Sheep, and for the manner I do refer the Reader, not only to that part, but also to the discourse of the Calf and Oxe, wherein I trust he shall finde satisfaction for this point, whether he will do it by a knife, by reed, by finger, or by hammer, for all those ways are in differently proponed. The best time for the gelding of Rams, ought to be in the wane or decrease of the Moon, at five months old, so as he may neither be troubled with extremity of cold or heat. And if it be not libbed at that age, but prolonged till two, three or four year old; we have shewed already the English manner for knitting of Rams.

Being thus libbed or knit, their horns grow not so great as the other males ungelded, but their flesh, and lard, or sewet, is more acceptable then of any other Sheep whatsoever, except they be over old, for that it is neither so moist as a Lambs, nor yet so ranck as a Rams or Ewes, whence *Baptista Fiera* made these verses;

*Ammiculus placeat, vel si sine testibus agnus,
Pinguior est hædo quin calet olla, vores.
Hunc amo si duri per pascua montis anhelat.
Malnero, si auri veliere dives erit.*

Platina also writeth thus of the flesh of Weathers, *Verecun caro satis salubris est & melior quam agnina, calida enim & humida habetur, ad temperamentum tendens, illa vero plus humiditatis quam calidi aia habet.* That is to say; The flesh of Weathers is wholesome enough, and better then the flesh of Lambs, because it is hot and moist, but that hath in it more moisture then heat, and therefore this tendeth to a better temperament. *Munster* writeth, that the Inhabitants and people of *Valis* take this flesh of Weathers, and salt it, afterward dry it in the air where no smoke may come unto it; afterward they lay it up in straw, and so hold it much more delicate then that which is raised in the smoke.

As the flesh of these Beasts groweth the better for their gelding, because they live more quietly and peaceably, for that their fore-heads grow weak and tender, and their horns small, so also it is reported that their tails grow exceeding large and fat. In some Regions, as in *Arabia Felix*, and other places, and because the report should not seem feigned by me, I will describe it in the Authors own words, *Paulus Venetus* writeth thus of the Weathers of *Scythia*, and in the Region *Camandu*, subject to the great *Tartar*. In *Tartaria Regione Camandu* arietes non minores asinis sunt, caudæ tam longæ & late, ut triginta librarum pondus æquent. In *Camandu* a Territory of *Tartaria* there are Rams like Asses in stature and quantity, whose tails are so long and broad, that they ballance in weight thirty pound. *Vartoman* writeth; In ædibus regis *Arabum* fuisse præpinguem vervecem, cujus cauda adeo obesa fuit, ut libras quadraginta appenderet, & prope Reame urbem *Arabia felix*, vervecum genera reperiuntur, quorum caudam animadverti pondo esse librarum quadraginta quatuor, carent cornibus, adeoque esse obesi & pingues ut vix incedere possunt. Circa *Zeclam urbem Ethiopia* verveces non nulli ponderosissimas trahunt caudas, ut pete pondo sedecim librarum. His caput & collum nigricant, ceteris albi sunt. Sunt etiam verveces profusus albicantes, quorum cauda cubitalis est longitudinis modo elaborata vitis, palearia ut tubus à mento pendent, quæ humum prope verrunt. That is to say, In the house of the King of *Arabia*, there was a Weather very fat, whose tail weighed forty pound, and near unto *Reamia*, a City in *Arabia Felix*, there are a breed or race of Weathers, whose tails for the most part weighed four and forty pound. They want horns, and are so fat that they can scarcely go. Also about the City *Zecla* in *Ethiopia*, the Weathers draw long tails, weighing sixteen pound. Whereof some have their heads and neck black, and all the other parts of their body

body white, some of them again all white, having a tail but of a cubit long, like a curious and planted Vine, their crests and hair hanging from their chin to the ground. Thus far of the *Arabian Weathers*. Of the *Indians* he writeth thus in another place: *Circa Tanasuri urbem Indie tanta est pecudum copia ut duodeni vervecis singulo aureo veneunt. Conspiciuntur illic vervecis alii, cornua haud absimilia damus habentes, nostris longe majores ferocioresque. Cauda vervecum in peregrinis regionibus tante sunt, quantus nullus apud nos vervex. Contingit hoc quia humidissimum hoc animal, & inter quadrupedia frigidissimum, cumque cetera ossa extendi nequeant, ne pinguedine immensa, extensis etiam ossibus & nervis non parum, quae humida natura velut pisces semper incremento apta sunt.* That is, About the City *Tanasur* in *India*, there is such great plenty of Cattel, that they sell twelve Weathers for a noble, and yet there are Weathers which have horns like to the horns of Deer, being longer, greater, and fiercer then our Rams, and their tails in forein and strange Countries are fatter then any Weathers among us; and the reason hereof is, because it is the moistest and coldest creature among all four-footed Beasts: and because the bones cannot be enlarged to receive that moisture, and lest that it should destroy the Beast by exuperance and abundance, therefore nature hath provided this remedy to send it forth into the tail, whereby in flesh and fat it groweth exceedingly, the bones and nerves whereof are not a little extended, for they are also of a moist nature like fishes, and therefore apt to encrease and grow immeasurably.

Thus much say they of the tails of Weathers, now I know such is the solidity of divers Readers and people, that for these reports, they will presently give both these Authors and me the Whet-stone for rare untruths and fictions: I do not marvel, for such (I dare assure myself) do not believe all the miracles of Christ, having short and shallow concepts, measuring all things by their own eyes, and because they themselves are apt to lye for their profit, therefore they are not ashamed to lay like imputations upon honest men, yet I could shew unto them as great or greater wonders in our own Nation (if they were worthy to be confuted) for which other Nations account us as great liars (nay as these Infidel fools) do them, and yet they are common among us.

The use of the several parts of this Beast, is no other then that which is already reported of the Sheep and Ram, and therefore I will not stand to repeat that which is so lately related, and for the remedies or medicinal vertues, I finde few that are special except those which are common between this and other of his kinde. It seemeth by *Plautus*, that a Weather Sheep is accounted the most foolish of all other, a coward and without courage, for speaking of a mad dotish fellow, he writeth thus: *Ego ex hac statua vervecis volo erogitare, meo minore quod sit factum filio.* That is, I will demand of this blockish Weathers picture, (meaning his foolish servant) what is become of my younger son.

These were among the Pagans sacrificed, but not among the *Jews*, for they have not so much as a name for it, and it is probable, that seeing it is an unperfect Beast, God forbade it into his sanctuary: when the *Gentiles* brought a Lamb at the side of a Weather to be sacrificed, they called them *Ambegni*, and so also a Lamb and an Ox. *Aciatus* maketh this pretty emblem of a Weather which with a Hedge-hog is the Arms of *Millain*, wherewithal I will conclude this discourse;

*Bituricis vervecis, Hædus dat sacula signum.
At populis patriæ debita origo meæ est.
Quam Mediolanum sacrum dicere puella
Terram: nam vetus hoc Gallica lingua sonat.*

*Culta Minerva fuit, nunc est ubi numine Tecla
Mutato matris virginis ante domum.
Laniger huic signum suus est, animalq; bisforme.
Acribus hinc setis, lanitio inde levi.*

Festus.

Of the LAMB.

THE Lamb is diversly tearmed by the *Hebrews*, as is already shewed in the story of the Sheep, (in some part) and now more particularly, *Seb* signifieth a Lamb, *Keseb* and *Kebe*, a Lamb of a year old, also *Gedi*, according to the opinion of *David Kimb*; in *Greek*, *Arniou*, and *Arna*, and *Amnos*, and at this day *Arni*; the *Italians*, *Agna*, *Agno*, *Agnello*; the *Spaniards*, *Cordero*; the *French*, *Agneau*, and *Agnelet*; the *Germans*, *Lamb*, and *Lamblein*, and as the first year we call it in *English* a Lamb, so the second year a Hog, Lam-hog, or Teg if it be a female, the third year Hoggrils and Theives: the *Latines* call it *Agnus*, of the *Greek* word *Agnos*, castus quia est hostia pura & immolationi apta. That is chaste, for that a Lamb is pure and clean, and fit for sacrificing.

And the common Epithets expressing the nature of this Beast are these, rough, yeaneling, weak, unripe, sucking, tender, butting, fat, milk-eater, merry, sporting, bleating, affable or gentle, field-wanderer, horn-bearer, horn-fighter, unarmed, vulgar, wooll-skinned, wooll-bearer, wanton, meek, delicate and fearful: and all these are the Epithets of a male Lamb, but of the female I finde these following: dumb, snow-white, neat, young, fearful, black, tame, humble, and tender, and the *Grecians*, *Hedynous*, because of the sweet smell that is found in them when they are young and suck their dams.

We read that the Lambs of *Africa*, both males and females, are yeaned with horns, the reason whereof is shewed in another place, and it is a common and natural thing to them all as soon as they are fallen out of their dams belly, they presently leap and run about their dams, and also learn to know them by whom they are nourished, according to the saying of *Lucretius*:

*Aristotle.
Ælianus.
Of the meek
disposition of
Lambs.
Præterea*

*Præterea teneri tremulis in vocibus hædi,
Corniferas norunt matres, agniq; petulci.*

S. Ambrose writeth thus of the inclination of a Lamb to his mother, and the love of her milk. *Ag-nus simplicissimus ovium recognoscit vocem parentis, cum a matre quandoq; aberrat, frequenter eam balatu exci-tat, multisq; licet versetur in millibus ovium, festinat ad eam: nam quamvis cibi & potus desiderio te-neatur transcurrit tamen aliena ubera, licet humore lactis grävda exundent, soliusq; materni lactis fontes re-quirat.* The Lamb is a most simple Beast, and erreth many times from his mothers sides, having no other means to provoke his mother to seek him out but by bleating; for in the midst of a thousand Sheep it discerneth the voyce of his parent, and so hasteneth to her when it heareth her; for such is the nature of this poor Beast, that although there be many other Ewes which give suck, yet they pass by all their udders to taste of their mothers fountains, and the Ewe knoweth her young one by smelling to the backer part: the Lamb all the while it sucketh waggeth and playeth with the tail. When the Lamb is newly fain, in some Countries they put them up close into a stable for a day, or two, or three, till they grow strong, and are well filled with Milk, and know their Dams, and so long as the Rams feed with the females they keep in the Lambes, that so they may be clear day and night from all violence of the Rams, for at night they lodge single and alone by their dams sides. The like regard is to be had if they do not suck their mothers, they must anoint their lips with butter or Hogs-grease and milk, and for two months after their yeaning it is not good to rob them of any milk, but suffer them to suck all that their Dams can breed, for so their Lambs will grow more strong, and also their wooll more fine. And when they are to be weaned, they must first of all be brought out of love of their mothers milk, lest after their separation they languish, and lose all natural joy, whereby they are never likely to come to good: afterward let them be herded or drove to field, but after their yeaning it is profitable when they are a week old to give them Salt, and so the second time after they be fifteen days old. It is never good to nourish the firstling or first Lamb of an Ewe, for that commonly they are weaker and more tender then any other, but the best to be nourished are twins.

Didymus.

Varro.

Pliny.

Democritus.

They are also the best and strongest which are bred in the Spring time, and much fatter, and more able then those which are yeaned in the Autumn. And yet there are some that affirm, that they which are bred in the Winter are fatter then those which are bred in the Summer, for if strength of nature be able to live out the Winter at the first yeaning, much more will they be able to endure when they are elder: in the first sucking of a Lamb, the beestings must be milked out, for they are apt to fall into many diseases, such as are already mentioned in the discourse of the Sheep: generally to preserve them in health, they give them Ivy when they are vexed with an Ague, and separate them from the Ewes, lest by sucking they infect their mothers, then must they be milked alone, and their milk mixed with rain water, and so given to the sick Lamb, and if they will not take it willingly, then infuse it into her throat with a horn, and if they be troubled with Scabs, take Hysop and Salt, of each an equall quantity; and if the mouth be broken out and blistered, then rub the afflicted place therewith, afterward wash them with Vinegar, and then anoint them with liquid Pitch and Hogs grease; there must be also a care had to keep them from Lice.

Concerning the use of their several parts, we have already shewed in the story of Sheep, and therefore we need not prosecute it in this place. Their skins are fitter to clothe men, then the skins of their dams, and therefore the Hebrews say that they are fittest for the garments of young men, for they encrease their strength and natural vigor. The Skinners make great account of these Lamb-skins, and use them for the linings of many garments, such as are killed they call the skins of slaughter-lambs. The best are brought out of Italy and Apulia, and all those parts which are beyond Rome; Narbon, and Spain, yeeld plentiful store of black Lambs, and their skins are sold by Merchants; and white skins are plentiful in England.

Their flesh is nourishable and convenient for food, but yet inferiour to Weather Mutton, for that it containeth more moisture then heat. To conclude this discourse of the Lamb, the greatest honour thereof is, for that it pleased God to call his blessed Son our Saviour by the name of a Lamb in the Old Testament, a Lamb for Sacrifice, and in the New Testament, styled by John Baptist, *The Lamb of God that taketh away the sins of the world.* There is a proverb in Greek, *Arneia soi lelaleken agnus tibi locutus est,* A Lamb hath spoken this unto you, and it was a proverbial speech to express a divine Revelation of some business, that men cannot attain unto by ordinary and common means, because either it is concealed, or else it concerneth things to come. For it is reported by Suidas, that once in Egypt there was a Lamb that spake with a mans voice, upon the Crown of his head was a regal Serpent having Wings, which was four cubits long, and this Lamb spake of divers future events.

The like is said of another Lamb that spake with a mans voice, at what time Romulus and Remus were born, and from these miraculous events, came that common proverb: and so for this story I will conclude with the verse of Valerius: *Aspera nunc pavidos contra ruit agna leones.* There is in Moscovia near Volga, a certain Beast of the quantity and form of a little Lamb, the people call it Boranz, and it is reported by Sigismundus, in his description of Moscovia, that it is generated out of the earth

earth like a reptile creature, without seed, with dam without copulation, thus liveth a little while and never stirreth far from the place it is bred in, I mean it is not able to move it self, but eateth up all the grasse and green things that it can reach, and when it can finde no more, then it dyeth.

Of the MUSMON.



I Have thought good to reserve this Beast to this place, for that it is a kinde of Sheep, and therefore of natural right and lineage to this story, for it is not unlike a Sheep, except in the wool which may rather seem to be the hair of a Goat; and this is the same which the antients did call *Pliny*. *Umbrice oves*, *Umbrian Sheep*, for that howsoever it differeth from Sheep, yet in simplicity and other inward gifts it cometh nearer to the Sheep. *Strabo* calleth it *Musmo*, yet the *Latins* call it *Musmon*. This beast by *Cato* is called an *Asse*, and sometimes a *Ram*, and sometimes a *Musmon*. The picture which here we have expressed, is taken from the sight of the Beast at *Caen* in *Normandy*, and was afterwards figured by *Theodorus Beza*. *Munster* in his description of *Sardinia* remembreth this beast but he saith that it is speckled, whereat I do not much wonder, seeing that he confesseth that he hath all that he wrote thereof, by the Narration of others.

Some say it is a Horse or a Mule, of which race there are two kinds in *Spain*, called by the *Latins*, *Asurcones*, for they are very small; but I do not wonder thereat, seeing that those little Horses or Mules are called *Musmones*, because they are brought out of those Countries where the true *Musmones* (which we may interpret wilde Sheep, or wilde Goats) are bred and nourished. There are of these *Musmons* in *Sardinia*, *Spain*, and *Corfica*, and they are said to be gotten betwixt a *Ram* and a *Goat*, as the *Cinirus* betwixt a *Buck-goat* and an *Ewe*. The form of this Beast is much like a *Ram*, saving that his breast is more rough and hairy: his horns do grow from his head like vulgar *Rams*, but bend backward only to his ears: they are exceeding swift of foot, so as in their celerity they are comparable to the swiftest Beast. The people of those Countries wherein they are bred, do use their skins for breastplates. *Pliny* maketh mention of a Beast which he called *Ophion*, and he saith he found the remembrance of it in the *Grecian* books, but he thinketh that in his time there was none of them to be found in the world: herein he speaketh like a man that did not know *GOD*, for it is not to be thought, that he which created so many kinds of beasts at the beginning, and conserved of every kinde two, male and female at the generall deluge, would not afterward permit them to be destroyed till the worlds end, nor then neither: for seeing it is apparent by holy Scriptures, that after the world ended, all creatures and beasts shall remain upon the earth, as the monuments of the first six days works of Almighty God, for the farther manifestation of his glory, wisdom, and goodness, it is an unreasonable thing to imagine that any of them shall perish in

general in this world. The *Tadinians* call these beasts, *Muffo*, and *Erim Muffo*, which may easily be derived from *Ophion*, therefore I cannot but consent unto them, that the antient *Ophion* is the *Musmon*, being in quantity betwixt a Hart and a Sheep, or Goat, in hair resembling a Hart, and this Beast at this day is not found but in *Sardinia*. It frequenteth the steepest mountains, and therefore liveth on green grasse and such other hearbs. The flesh thereof is very good for meat, and for that cause the inhabitants seek after it to take it. *Helior Boethius* in his description of the *Hebridian* Islands saith, that there is a Beast not much unlike to Sheep, but his hair betwixt a Goats and a Sheeps, being very wilde and never found or taken but by hunting, and diligent inquisition. The name of the Island is *Hierbe*, and the reason of that name is from his breed of Sheep called *Hierth* in the Vulgar tongue, yet those Sheep agree with the *Musmon* in all things but their tails, for he saith, that they have long tails reaching down to the ground, and this name cometh from the German word *Herd* a flock, and thereof *Hirt* cometh for all Sheep in general. Now followeth the conclusion of their story with their medicinal virtues.

The medicines of the Sheep in general.

Galen.

The bodies of such as are beaten, and have upon them the appearance of the stripes, being put into the warm skins of Sheep when they are newly puld off from their backs, eateth away the outward pain and appearance, if it continue on a day and a night. If you seethe together a good season the skin of the feet, and of the snowt of an Ox or a Sheep till they be made like glew, and then taken forth of the pot and dryed in the windy air, is by *Silvius* commended against the burstness of the belly.

Pliny.

The blood of Sheep drunk, is profitable against the falling sickness: Also *Hippocrates* prescribeth this medicine following, for a remedy or purgation to the belly, first make a perfume of Barly steeped in oyl upon some coles, and then seethe some Mutton or Sheeps flesh very much, and with decoction of Barley set it abroad all day and night, and afterward seethe it again and eat or sup it up warm, and then the next day with Hony, Frankincense, and Parsely, all beaten and mingled together, make a Suppository, and with wool put it up under the party, and it shall ease the distress. The same flesh burned and mixed in water by washing, cureth all the maladies or diseases arising in the secrets, and the broth of Mutton, Goose, or Veal, will help against the poison by biting if it be not drawn out by cupping glasse nor by horse-leach. The sewet of a Sheep melted at the fire, and with a linnen cloth anointed upon a burned place, doth greatly ease the pain thereof.

The Liver with the sewet and *Nitre* causeth the scars of the flesh to become of the same colour that it was before the wound, it being mixed with toasted Salt, scattereth the bunches in the flesh, and with the dust of womens hair, cureth fellons in fingers, or any part of the bodies. The sewet of Sheep or Goats, being mingled with the juyce of Rhenish wine grape, and shining horse flies, doth without all scruple or doubt, ease the pain of the milt, if it be anointed thereupon. The fat of Sheep doth very easily expell the roughneis of the nails.

Marcellus.

The sewet of Sheep or any other small beast, being mixed with the herb called *Melander*, and pounded with Alum, afterward baked together, and wrought into the manner of a Sear-cloth, doth very much ease those which are burned by fire in any parts of their body, being well applyed thereto. The sewet of a Sheep being also applyed to those which have kibes in the heels, or chilblanes in their feet, will presently heal them.

Pliny.

The sewet of a Sheep mixed with womens hair which is burnt to powder, doth very effectually cure those which have their joynts or articles loose, being anointed thereupon. The fat of Goats or Sheep moistned with warm water, and boiled together, being anointed upon the eyes, doth speedily cure all pains, spots, or blemishes in the same whatsoever. The fat of a Sheep boyled and drunk with sharp wine, is an excellent remedy against the cough. The same medicine is also effectually used for the expelling of horses coughes. The sewet of a Sheep being boyled with sharp wine, doth very speedily cure the obstruction of the small guts, bloody flux, and any cough of what continuance soever.

Marcellus.

The same being in like manner drunk while it is hot, is accounted for an excellent remedy against the Colick passion. The sewet of a Sheep, or of a Male goat, being mingled with the fime or dung of a Female-goat, and Saffron, doth very effectually cure those which are troubled with the Gowt or swelling of the joynts, being anointed upon the place so grieved. It is also reported that the outward sewet of Sheep (between the flesh and the skin) between the hinder legs, is very wholesom for the curing of sundry pains and diseases.

Dioscorides.

Sheeps sewet or the fat of any other small beast being gathered from the reins, mixed with salt, and the dust of a pumice stone, being applyed unto the yard of any man, doth speedily cure all pains, aches, or swellings therein. The fat of Sheep which is gathered from the caul or cell, being mingled with the aforesaid medicines do heal all other pains in the privy members of man or woman whatsoever. The same sewet doth stay the great excess of bleeding in the nose, being anointed thereupon.

Sheeps sewet being mixed with Goose grease and certain other medicines, being taken in drink, doth help abortments in women. The liver of a Sheep is accounted an excellent remedy against the shedding of the hair on the eye lids, being rubbed thereupon. The same being also baked or boyled,

is accounted very profitable for Sheeps eyes, if it be well rubbed thereon. The marrow of Sheep is very good to anoint all aches and swellings whatsoever.

The horns of Sheep or of Goats pounded to powder, mingled with parched Barley which hath been well shaled, and altogether mixed with Oyl, being taken in a certain perfume, doth help Women of their seconds, and restoreth to them their menstruell fluxes. Sheeps hornes burned and beaten in wine untill they be tempered like a pill, the right foot being anointed with the right horn, and the left foot with the left, will mitigate the sorrow of those which are very fore pained and troubled with the gowt. *Hippocrates.*

Rheumatick, or watry eyes, being anointed with the brains of Sheep are very speedily and effectually cured. The brains of the same beast is exceeding profitable for the breeding of young childrens teeth, being anointed upon the gums. The lungs or lights of small beasts, but especially of a Ram, do restore the true skin and colour of the flesh, in those whose bodies are full of chops and scars. *Rasis.*

The lungs or lights of the same beast concocted upon the uppermost skin of any man, and applyed very hot thereunto, do diminish the black or blew places therein, which have been received by the occasion of any stripes or blows. *Pliny.*

The lungs of Sheep being new taken out of their bellies, and applied while they are hot unto beaten or bruised places, doth quite abolish the signes thereof, and in short space procure remedy. The lungs of Sheep or small Cattle being roasted and taken by any man before he drinketh, will resist all kind of drunkenness. *Marcellus.*

The lungs of Sheep taken out of their bellies, and bound about the heads of those which are phrensie while they are hot, will very speedily ease them of their trouble. The lungs of Sheep being hot and bound to the head, is accounted very profitable for those which are troubled with the pestiferous disease called the Drowfie evill.

The lungs of Sheep being boiled with Hemp-seed, so that the flesh be eaten, and the water wherein it is sod be drunk, doth very effectually cure those which are grieved with excoriations in their bellies, and the bloody flux. The lungs of Sheep being applyed while they are hot, doth heal the Gowt.

The liver of white Sheep well boiled, made moist with water, thoroughly beaten and applyed unto the eye-lids, doth purge Rheumatick eyes, and cause them to be of a more clear and ample sight. If a woman bearing young, shall be puffed up with winde, give her the liver of a Sheep or Goat beaten into small powder while it is hot, being pure and without mixture for four dayes together to eat, and let her drink only wine, and this will very speedily cure her. *Hippocrates.*

The gall of a Sheep mingled with hony, healeth the Uicers of the ears, and procureth easie hearing. The gall of a Sheep mingled with sweet wine, if it be tempered in the manner of a glyster, and afterwards rubbed upon the ear-laps, the ulcers being quite purged, will procure a speedy cure and remedy. The gall of the same beast distilled with a womans milk, doth also most certainly heal their eares which are broken within, and full of matter corruption. *Pliny.*

The gall of a Sheep being mixed with common oyl, or oyl made of Almonds, doth also heal the pains of the ears, being powred therein to. Cankers, or the corrosion of the flesh, being anointed with the gall of a Sheep, is very speedily and manifestly cured. The Dandraffe or scurfes of the head being anointed with the gall of a Sheep mixed with fullers-earth which is hardned together while the head burneth, are very effectually abolished, and driven quite away. *Albertus.*

The gall of little cattle, but especially of a Lamb, being mixed with hony is verily commended for the curing of the Falling evill. The milt of a Sheep new taken out by magicall precepts is accounted very good for the curing of the pain in the milt, he saying which may be healed that he maketh a remedy for the milt. After these things the Magicians command that the grieved party be included in his Dotor or Bed-chamber, and that the doors be sealed up, and that a verse be spoken thrice nine times. The milt of a Sheep being parched and beaten in wine, and afterward taken in drink, doth resist all the obstructions or stopping of the small guts. The same being used in the like manner is very medicinable for the wringing of the guts. *Pliny.*

The dust of the uppermost of a Sheeps thigh, doth very commonly heal the looseness of the joints; but more effectually if it be mixed with wax. The same medicine is made by the dust of Sheeps jawes, a Harts horn, and wax mollified or asswaged by oil of Roses. The upper parts of the thighs of Sheep decocted with Hemp-seed, do refresh those which are troubled with the bloudy flux, the water whereof being taken to drink. For the curing of a Horse waxing hot with weariness and longitude of the way; mingle Goats or Sheeps sewet with Coriander, and old dill, the Coriander being new gathered, and diligently pounded in the juice of Barley, and so give it thoroughly strained for three dayes together. *Marcellus.*

The huckle-bone of a Sheep being burned and beaten into small dust, is very much used for the making of the teeth white, and healing all other pains or aches therein.

The bladder of a Goat or Sheep being burned and given in a potion to drink, made of Vinegar and mingled with water, doth very much avail and help those which cannot hold their water in their sleep. The skins which cometh from the Sheep at the time of their young, doth very much help very many enormities in women, as we have before rehearsed in the medicines arising from Goats. *Galeus.*

The milk of Sheep being hot, is of force against all poysons, except in those which shall drink a venomous fly called a Wag-leg, and Libbards bane. Oatmeal also doth cure a long lingring disease, a pinte of it being sodden in three cups of water, until all the water be boyled away: but afterwards you must put thereunto a pinte of Sheeps milk or Goats, and also Hony every day together.

Some men do command to take one dram of Swallows dung in three cups full of Goats milk or Sheeps milk before the coming of the quartern Ague. Goats milk, or Sheeps milk being taken when it is newly milked from them, and gargarized in the mouth, is very effectual against the pains and swellings of the Almonds. Take a pinte of Sheeps milk, and a handful of sifted Aniseeds, and let them seethe together, and when it is somewhat cold let it be drunk, and it is very good to loosen the belly. Medicines being made of Goats milk and Sheeps milk, and so being drunk, is very good for the shortness of breath.

Pliny.

Marcellus.

Furnerius.

Crescentien.

Pliny.

A hot burning gravel stone being decocted in Sheeps milk, and so given to one that hath the Bloudy flux, is very profitable to him. Goats milk or Sheeps milk given alone luke-warm, or sodden with Butter, is very profitable to those that are brought very weak with the passions of the stone, and fretting of the guts. To wash ones face with Sheeps milk, and Goats milk, is very good to make it fair and smooth. Evenings milk of Sheep, that is, the last milk that they give that day, is very good to loosen the belly, and to purge choler. The hairs of the head of a Dog burned into ashes; or the gut of the privy place sodden in Oyl, is a very good and soveraign remedy for the looseness of the flesh about the nails, and for swelling of flesh over them, being anointed with Butter made of Sheeps milk and Hony. An Oyl sodden in Hony, and Butter made of Sheeps-milk, and Hony melted therein, is very profitable to cure ulcers. Old Cheese made of Sheeps milk, is very good to strengthen those which have been troubled and made weak with the Bloudy flux. Again, old Cheese made of Sheeps milk, taken in meat, or scraped upon it, and being drunk with Wine, doth ease the passion of the Stone.

Marcellus.

There was a certain Physitian being skilful in making medicines, dwelling in Asia by Hellespont, which did use the dung of a Sheep washed and made clean in Vinegar, for to take away Warts and knots rising on the flesh like Warts, and kernels, and hard swellings in the flesh. Also he did bring Ulcers to cicatrizing with that medicine which were blasted or scalded round about, but he did mingle it with an emplaister made of Wax, Rosin, and Pitch.

Dioscorides.

Pliny.

Vegetius.

The dung of Sheep also doth cure pushes rising in the night, and burnings or scaldings with fire, being smeared over with Vinegar without the commixture of any other things. The dung of Sheep being mixed with Hony, doth take away small bumps rising in the flesh, and also doth diminish proud flesh: and also it doth cure a disease called an emmor, as Rasis and Albertus say. The dung that is new come from the Sheep being first worked in thy hands, and applied after the manner of an emplaister, doth eat away any great warts growing in any part of thy body. The dung of a Sheep being applied to thy feet, doth consume or waste away the hard flesh that groweth thereon.

Sheeps dung doth also cure all kinde of swellings that are ready to go into Carbuncles. It is also good being sodden in Oyl and applied after the manner of an emplaister, for all new wounds made with a sword, as Galen saith:

Pliny.

*Aut si conclusum servavit tibia vulnus,
Stercus ovis placide junges, adipemq; vetustos,
Pandere quæ poterunt bulcus, patuloq; mederi.*

The dung of Sheep and Oxen being burned to powder, and smeared with Vinegar, is very good against the bitings and venomousness of Spiders; And again it is very effectual being new come from them, and sodden in Wine against the stings of Serpents. Sheeps dung being mixed with Hony, and applied to Horses whose hoofs are broken, is very effectual.

The dung of Oxen and Sheep being burned to powder, and intermixed therewith, is very effectual against Cankers, and also the bones of the Lambs thighe, being burned into ashes, is very profitable to be applied to those ulcers which cannot be brought to cicatrife. Also Sheeps dung being made hot in a Gally pot, and kneaded with thy hands, and afterwards applied, doth presently cease the swellings of wounds, and doth purge and cure Fistulas, and also diseases in the eyes.

The Oyl of Cypress and Hony, is very effectual against Alopecia, that is, the falling off of the hair. An emplaister made of Sheeps dung, and the fat of a Goose and a Hen is very effectual against hair rising in the root of the ear, as Rasis and Albertus say. Sheeps dung being applied hot, is very effectual against the swellings of womens paps or dugs.

Obscurus.

Rasis.

Pliny.

Albertus.

Sheeps dung being put into the decoction of Wood-bine, or Hony and water, and so drunk, is very profitable against the Yellow-jaunders. If the Spleen be outwardly anointed with Sheeps dung and Vinegar, it doth lessen the rising of it. The dung of Oxen and Sheep which is very moist, doth ease all manner of Gouts. The thin or outmost skin which is taken from the privy part of Sheep, is very profitable against the disease called the flowers in Women. The dung also hath the same operation. The Urine of Sheep is very profitable against the Hydropsie being mixed with Hony. But Rasis saith otherwise, which is, that the dung being drunk with Hony is available against the Dropsie.

To take the weight of a penny of Ox dung and Sheeps dung, and a grain of Myrrh, and two ounces and a half of Wine, doth stay or resist the coming of the Kings evill. The filth which is *Pliny*. taken out of the ears of these beasts is said to be very effectual against the flowers. It doth make a barren woman to conceive with child also, as *Serenus* saith in these Verses:

*Pendentem spumam molli deducet ab ore,
Aut ovis in stabulis fractus cum ruminat herbas,
Atq; illam memini misto potare falerno.*

The sweat of a Horse being made warm and mixed with Vinegar, is very convenient against *Sylvaticus*. the Falling sicknes, and is used against venomous bitings. And also the sweat of Sheep is very much profitable unto it. If the hoof or ankle-bone of an Ox chance to be cut with a Plough-*Columella*. share, Pitch and fat with Sulphur is very good, but you must roul round about the wound Wool.

Unwashed Wool doth very much profit those that are frenzie being applyed with a fume that stoppeth humors from coming down from the head. Unwashed Wool being bound upon the forehead, is very good for the waterish humor that floweth out of the eyes. Unwashed Wool being heated in Vinegar, and pressed into the ear, and afterwards the top of the ear being stopped with that Wool, will by little and little ease the pains in the ears. Unwashed Wool dipped in Oyl of Roses and put into the Nostrils doth stay bleeding at the Nose. Unwashed Wool being plucked from the privy parts of Sheep and moistned in Oyl of Roses, is very good to stop the fluxes of blood in any part of mans body.

Unwashed Wool being tyed on the outside of the knuckles or joynts, doth stop the bloud or *Marcellus*. humors from running to and fro. It is also said to be very good being dipped in Hony (and so rubbed upon the teeth or gums) for to make one breathe or gaspe easier. Unwashed Wool being smeared over with Hony, and rubbed upon the teeth, doth make them look white presently after. Unwashed Wool with a little salt put to it and tyed close in a linnen cloth, and so scorched and beaten to powder, is very good to keep the teeth from pain, being rubbed upon them.

Unwashed Wool being mixed with Niter, Brimstone, Oyl, Vinegar, and with Tar, being ap-*Galen*. plied twice a day, doth ease all pains of the knuckles and ankles. Sheeps dung and other things with unwashed Wool is very effectually against the stone in the bladder, as it is spoken above in the cure and remedies of Sheeps dung. Unwashed Wool doth cure all the diseases in the privy parts of men or women being applyed thereunto. The black Wool of Sheep, is very profitable for all swellings in the stones or cods of men. The gall of Bulls put upon unwashed Wool, is very profitable for the flowers of women. Unwashed Wool being applyed unto those parts that are dead, doth very much good unto them.

White fleeces of Wool being either applyed alone, or with Brimstone, is very good for hidden pains and griefs. Fleeces of Wool given in a fume with Brimstone, is very good for the remedy of the Kings evill. Wool being dyed of a purple colour, and so applyed, is very good against the pains of the ears. There are moreover very many remedies made against diseases by unshorn Wool, besides the expelling of cold, being taken in Oyl, Wine, or Vinegar, for as much as the same being applyed to the members which are out of joynt, or to any pains in the Nerves, doth very speedily and tenderly heal the same.

Sheeps Wool being mixed with Herbgrace and Sheeps greafe, is very much applyed unto those which are bruised, or have hard swellings in any parts of their body. Unwashed Wool being often put into the sores which are bitten by mad Dogs, doth perfectly cure them in seven dayes.

Sheeps wool in cold water doth bring remedy unto those whose skin is loose about the Nails. *Pliny*. The same being steeped in hot Oyl may be well applyed unto moist or running sores: but mingled with Hony is very medicinable for old sores or festers: and steeped in Wine, Oyl, Vinegar, or cold water, doth heal any new wound which seemeth to bring the wounded party in danger of death. *Dioscorides* doth also affirm that Sheeps wool being unwashed is curable for all kinds of wounds whatsoever.

The same is very much applyed unto those whose bones are bruised or broken, if it be mixed with the brains of a wanton Dog, and bound hard upon the grieved place in a linnen cloth. The *Carthagi-* *Serenus*. *nian* Shepherds do use the unwashed Wool of Lambs of the age of four years, for the curing of the Temples, or the crown of the head. If the plough share chance to hurt the huckle-bone or hoof of an Ox, take hard Pitch and Bacon greafe mingled with Brimstone, and rowled in unwashed Wool, and mark the wounded place with all these together with a fiery hot iron, and it will bring present help and remedy.

Unwashed Wool being taken in some certain perfume doth cure those which are Frantick, and restore them to their former wits. Spleen-wort being boyled in Hony and mixed with unwashed Wool which was steeped in Oyl or Wine, is very good for the aforementioned disease, being bound about the forepart of the head in a broad linnen cloth. Sheeps wool being also applyed in the same manner, is an excellent cure for those which are troubled with a certain watery rheum running in the eyes, as also the ach in the forepart of the head.

Unwashed

Galen.

Unwashed wool boyled in Vinegar and applyed unto the eares, doth expell all filth or moisture therein, and the issue thereof being afterwards stopped with the same kind of wool, is very speedily cured. Sheeps wool is also very good and effectual for the curing the pains of the ears which are but new coming upon them. Unwashed wooll being mixed with Oyl of Roses and put into the Nostrils of any man, the ears being stopped close with the same kind of wool, will stay the issuing of the blood at the Nose, how fluent soever it be.

The same being also steeped in Oyl and put in the Nose, doth restrain the bleeding thereof. Wool being plucked or wrested from the back of Sheep, and kept unwashed, doth cohibite the abundance of blood, being steeped in pure liquid Oyl of Roses. The same being taken from the back of a Ram, doth stay over much bleeding at the Nose, the joynts of the fingers being bound as hard as possible can be suffered. Unwashed wool steeped in Hony and rubbed upon the teeth or gums, doth make the breath of any man more sweet and delightful then it hath been accustomed. The same being used in the said manner, doth procure a very great whiteness and cleanness in the teeth.

Unwashed Wool being parched and bound in a linnen cloth, a third part or portion of salt being afterwards added thereunto, and all beaten together in small dust or powder, and rubbed upon the teeth, will keep them from any pain or grief therein. Unwashed Wool being dipped in Nitre, Brimstone, Oyl, Vinegar and Liquid Pitch, being all boyled together, doth assuage all pains in the hanches or loins whatsoever, being twice a day as hot as possibly may be suffered applyed thereunto. Sheeps dung mingled with unwashed wool and certain other things, is very much applyed against that troublesom and painful disease called the stone or gravel.

Unwashed wool in cold water, doth cure diseases in the privy parts of any man or woman whatsoever. The wool of black Sheep is commonly reported to be very commodious and helpful for those whose Cods or stones are much swelled. The gall of an Ox being mixed with unwashed wool, doth help the purgation or menstrual fluxes of women; but *Olympius the Theban* affirmeth, that Hyssop and Nitre ought to be mixed with this wool for the helping of the same. Unwashed wool being applyed unto the secret parts of women, doth cause a dead childe to come forth. The same doth also stay the issues of women. The pure or clear fleeces of Sheep either applyed by themselves, or mingled with Brimstone, do cure all hidden or secret griefs whatsoever: and *Pliny* commendeth them above all other medicines whatsoever. Fleeces of wool mingled with quicksilver, are very profitable to be taken for the same diseases in certain perfumes. The root of a Mallow being digged up before the rising of the Sun, and wrapped in undyed wool, doth cure the Wens or mattry impostumes of those Sheep which have lately brought forth young. Sheeps wool being dyed in purple colour, doth very much profit the ears: but some do steep it in Vinegar and Nitre, to make the operation more effectual.

Serenus.

Pliny.

The dust of wool being burnt, doth bring forth the matter or corruption lying hid under scabs, restrain the swellings in the flesh, and bringeth all Ulcers to a scar. Wool being burnt hath a sharp force, and likewise hot together with the slenderness of the parts, it doth therefore very speedily cleanse and purge the sores in the flesh, which are moist and too much full of matter. It is also put in drying medicines. It is burned as if there were many other things in it, filling a new pot, which may be covered with a cover which is bored through with many holes like unto a sieve. The powder of unwashed Wool is anointed upon divers sores and is very curable for them as bruised, new wounded, and sores half burnt, and it is used for the curing of the diseases in the eyes, as also in the easing of the Fistulaes and corrupt mattery sores in the ears. The power of the powder of unwashed wool is cleansing, and it doth very effectually purge the eye-lids or cheek-bals. It doth also cleanse and cure for the most part all diseases, as *Serenus* saith in these Verses;

Galen.

Succida cum tepido neſcitur lana Lyco,

Ambuſtave cinis complebit vulneris ora,

Aut tu ſuccoſe cinerem perducito lane.

The hairs which grow about the secret hole of Sheep being burned, beaten and drunk in sweet wine, doth help the shortness of the breath, and ease the purfiness of the stomach. The wool of a little sheep being pulled from betwixt his thighs and burnt, and afterwards dipped in Vinegar, doth very speedily cure those which are troubled with the head ach, being bound about the temples. The dust of Sheeps fleeces is very medicinable for the curing of all diseases in the genital parts whatsoever. The dust of Sheeps wool, doth heal all passions in Cattle. The *Grecians* Plaster (called *Enneapharmacum*) consisted of nine several things, and amongst the rest of unwashed wool. The filth which sticketh to the Sheeps wool and groweth thereunto, from which the thing which the *Grecians* call *Oesypon* is made, hath the force of digestion like unto Butter, and also a like ability of concoction.

Marcellus.

In a certain medicine of *Andromachus*, for the curing of the disease of the secret parts, unwashed wool is added to the rest: but *Lepas* (as *Galen* saith) for unwashed wool doth add Goose grease in the same quantity. Some do also for unwashed wool use the marrow of a young calf, and apply it in the aforesaid manner; but this unwashed wool is termed of the *Grecians*, *Aeypus*, and therefore being by divers Authors set down diversly concerning the making and virtue thereof,

of, I have thought good to set down the truest and excellentest way to make the same (as *Dioscorides*) whom in this I suppose best to follow, reporteth; First to take new shorn wool which is very soft, and not trimmed with sope-weed, and wash it with hot water, then to presse all the filth forth of the same, and cast it into a Cauldron which hath a broad lip, and afterwards to pour the water in; and to stir it up and down with a certain instrument with such great force as it may foam again, or with a wooden rod still greatly to turn and trouble it, so that the filthy froath or spume may more largely be gathered together; afterwards to sprinkle it over with Sea water, and the fat remaining which did swim upon the top, being gathered together in an earthen vessel, to powr the water into the Cauldron: then must the froath be powred again into the Sea water; and lastly, taken out again: this is so often to be done, that the fat being consumed, there will not any froath be left remaining: the *Aesopus* then being gathered together, is to be mollified with mens hands, and if there be any filth therein, it must out of hand be taken away, and all the water by little and little excluded, and being fresh poured in, let it be mingled with ones hands, until the *Aesopus* being touched with the tongue of any one, may lightly bind it, but not savour either sharp or tartly, and the fat may seem very white, and then let it be hid in an earthen vessel, but let there be great care had they be done in the hot sun. But there are some which use another manner of way to make the same, which is this, to cleanse the fleeces, and wash away all filth, and presse it forth of the same, and boyl them in water over a soft fire in a brazen vessel, then to wash the fat which swimmeth on the top being gathered together with water, and being strained in another platter which may have some hot water in it to hide or overcast it with a linnen cloth, and lay it forth in the sun until it be very white and thick enough.

Some also do use another way, as this, to wash the fat being strained with cold water, and to rub it with their hands, not much otherwise then women do a sear-cloth, for by that means it is made more white and purer.

There is yet another kinde of way to make *Aesopus*, described by *Aetius* in these words, Take (saith he) the greasie Wool which groweth in the shoulder pits of Sheep; and wash them in hot water, being thick and soft, and squeeze all the filth forth of the same, the washing whereof you shall put in a vessel of a large mouth or brim, casting afterwards hot water in the same, then take the water in a cup, or in some other such like instrument, and pour it in and out, holding it up very high until there come a froath upon it, then sprinkle it over with Sea water, if you shall get any, if not, with some other cold water, and suffer it to stand still; when it shall wax cold take that which shall flow on the top away with a ladle, and cast it into any other vessel, afterwards having put a little cold water in it, stir it up and down with your hands, then having poured out that water, put new hot water in it, and repeat again the same thing all-together, which we have now taught, until the *Aesopus* be made white and fat, containing no impure or filthy thing in it at all, then dry it in the sun, being hid for some certain days in an earthen vessel and keep it. But all these things are to be done when the Sun is very hot, for by that means it will be more effectual and whiter, and not hard or sharp.

There are moreover some which gather it after this manner; They put new shorn wool which is very filthy and greasie in a vessel which hath hot water in it, and burn the water that it may somewhat wax hot, afterwards they cool it, and that which swimmeth above in the manner of fat, they scum it off with their hands, and put it away in a vessel of Tin, and so do fill the vessel it self with rain water, and put it in the Sun covered with a thin linnen cloth, and then we must moisten it again, and put up the *Aesopus*, for it hath strength mollifying and releasing with some sharpness, but it is counterfeited with wax, sewer, and Rozen, and it is straight ways perceived, and forasmuch as the true *Aesopus* reserveth the scent of the unwashed wool, and being rubbed with any ones hands is made like unto Ceruse, or white lead.

Even the filth and sweat of sheep, cleaving to their wool, hath great and manifold use in the world, and above all other that is most commended which is bred upon the *Athenian* or *Grecian* Sheep, which is made many ways, and especially this way; First they take off the wool from those places where it groweth, with all the sewer or filth there gathered together, and so put them in a brazen vessel over a gentle fire where they boyl out the sweat, and so take of that which swimmeth at the top, and put it into an earthen vessel, seething again the first matter, which fat is washed together in cold water, so dried in a linnen cloth is scorched in the Sun until it become white and transparent, and so it is put in a box of Tin. It may be proved by this, If it swell like the favour of sweat, and being rubbed in a wet hand do not melt, but wax white like White lead, this is most profitable against all inflammation of the eyes, and knots in cheeks, or hardness of skin in them.

Of this *Aesopus* or unwashed Wool the *Grecians* make great account, and for the variety of dressing or preparing it, they call it diversly, sometime they call it *Oesupon Pharmacon*, sometime *Oesupon Kerotoeide*, or *Keroten*, sometime *Oesupon Hugron*, and such like. Of it they make Plaisters to assuage the *Hypochondriacal* inflammations and yentosity in the sides. Some use *Aesopus* for *Oesopus*; but ignorantly, and without reason, it is better to let it alone, but in the collection hereof it must be taken from the sound and not from the scabby Sheep. But when we cannot come by the true *Oesopus*, then in stead thereof we may take that which the Apothecaries and Ointment-makers do ordain; namely, *Meliloti* unc. 4. *Cardamomi* unc. 2. *Hysopi* herb. unc. 2. with the unwashed Wool taken from the hams or flanks of a Sheep. *Myrrhus* used this *Oesopus* against all Gowts and aches in the legs or articles.

articles, and hardness of the spleen. *Galen* calleth it *Jus lane*, and prescribeth the use of it in this sort; Make (saith he) a Plaister of *Oesyphus* or *Jus lane* in this sort, Take Wax, fresh grease, *Scammonie*, old Oyl, one ounce of each, of Fenny-greek six ounces, then seethe or boyl your oyl with the *Jus lane*, and Fenny-greek very carefully, until it equal the oyl, and be well incorporated together, and then again set it to the fire, with the prescription aforesaid; and also he teacheth how to make this *Jus lane*, for (saith he) take unwashed Wool and lay it deep in fair water until it be very soft, that is by the space of six days, and the seventh day take it and the water together, that seethe well, taking of the fat which ariseth at the top, and put it up as is aforesaid: these things saith *Galen*.

Dioscorides.

The use of this by reason it is very hot, is to display Ulcers and tumors in wounds, especially in the secrets and seat, being mixed with Melilot and Butter, and it hath the same vertue against running sores. The same also with Barly meal and rust of iron, equally mixed together, is profitable against all swelling tumors, Carbuncles, Tetters, Serpigoes, and such like, it eateth away all proud flesh in the brims of Ulcers, reducing the same to a natural habit and equality, also filling up the sore and healing it, and the same vertue is by *Dioscorides* attributed to Wool burnt, also in bruises upon the head when the skin is not broken, a Poultice made hereof, is said by *Galen* to have excellent force and vertue. The same mingled with Roses, and the oar of brasse (called *Nil*) cureth the holy fire, and being received with Myrrh steeped in two cups of wine, it encreaseth or procureth sleep, and also is very profitable against the Falling-sickness. And being mixed with Corlick Hony, it taketh away the spots in the face, because it is most sharp and subtile, whereunto some add Butter; but if they be whealed and filled with matter, then prick and open them with a needle and rub them over with a dogs gall or a Calfs gall mingled with the said *Oesyphus*, also being instilled into the head with oyl, it cureth the Megrin, and furthermore it is used against all soreness of the eyes, and scabs in their corners, or upon the eye-lids, being sod in a new shell: and the same vertue is attributed to the smoke or foot thereof, if the eye-brows or eye-lids be anointed therewith; mixed with Myrrh and warmed, it is thought that it will restore the hair that is wanting and fallen off: but *Marcellus* prescribeth it in this manner, You must take *Oesyphus* or sweat of Sheep from under the wool of their shoulders, and adding unto it a like quantity of Myrrh, beat them together in a mortar, and with a warm cloth anoint the bare places.

Marcellus.

If there be any bruise in the eyes, then you must anoint them first with Goose grease, and the blood of a Mallard, and afterward with the sweat of a Sheep, and the same cureth all Ulcers in the mouth, ears, and genitals, with Goose-grease. This is also mixed with a Sear-cloth, and laid against the Phthisis (as *Actius* writeth) with a moist cloth against the Plurisie, also a Plaister made hereof with Goose grease, Butter, Allum, and the brain of a Goose, is very profitable against the pains in the reins, and all other infirmities of the back, and for the same cause it is applyed to women, for it provoketh their monthly courses, and also causeth an easie deliverance in childe-birth, it healeth the Ulcers in the secret and privy parts of men and women, and all inflammation in the seat, especially being mixed with butter, Goose grease, and Melilot: and some add thereunto the oar of Brasse and Roses. If there be a Carbuncle in the privy parts, take this *Oesyphus* with Hony and the froath of lead, also white lead, womens milk, and this Sheeps sewer, cureth the Gout, at the least marvellously asswageth the pain thereof, and some Physitians for this evill take Grease, Goose grease, and the fat of Buls, added to *Oesyphus*, also unwashed wool with the gall of a Bull laid to a womans secrets, helpeth her monthly purgation, and *Olimpias* added thereunto *Nitre*. The dung which cleaveth to Sheeps tails made into small bals, and so dried, afterward beat into powder and rubbed upon the teeth, although they be loose, falling out, or overgrown with flesh, yet *Pliny* saith, they will be recovered by that fricassing. If he which is sick of a Dropie drink this sweat or *Oesyphus* in wine with Myrrh of the quantity of a Hasel nut, Goose grease, and Mirtle oyl, it will give him great ease, and the same virtue is ascribed to the sweat of an Ewes udder, which is and hath been said of all the former *Oesyphus*.

Pliny.

The medicines of the Ram.

Even as the skins of other Sheeps newly plucked from their backs and applyed warm, do take away the ach, swelling, and pains of stripes and blowes from bodies, so also have the skins of Rams, the same property. *Arnoldus* commendeth a plaister made of a Rams skin for bursting and falling down of the guts, and this is found ready prepared in many Apothecaries shops, and the happy success thereof is much commended by *Alysius*. If a man take the stones of a fighting cock, and anoint them with Goose grease, and so wear them in a piece of a Rams skin, it is certain that it will cohibite and restrain the rage of venereal lust, and a woman wearing about her the right stone of a dunghil cock in a Rams skin shall not suffer abortment. The washed fleece of a Ram wet in cold Oyl, putryfieth the inflammation of the secrets; and likewise the black wool of a Ram wet in water, and then in oyl, and so put to the sick places, keepeth the fundament from falling, and also asswageth the pain. Also the wool of a fighting Ram taken from betwixt his horns, and perfumed into a smoke, easeth the pain, and some take the powder thereof in Vinegar for that Malady. They say that *Lais* and *Salpe* cure the bitings of mad Dogs, and also Tertian and Quartan Agues, with the menstruous purgation taken in a piece of Rams wool, and included in a bracelet of silver. Also they write that a woman shall have an easie travail if she wear in the wool of a Ram.

seed

seed of wilde Cucumber about her loins, not knowing thereof, so as it be presently after the delivery cast out of doors. Also *Marcellus* saith, that if one take the wool from a Rams fore-head, and burn in the cover of a new pot, and afterward beat it to powder in a mortar, and so put it into Vinegar, and therewithal the forehead being anointed, it easeth the head-ach. Also the dust of Rams wool mixed with water, cureth the pain in the yard. The matter of the Liver sod, hath the same operation: and *Sextus* writeth, that if the wool be taken from the head, ribs, and cods, and also worn by him that hath a Tertian Ague, it perfectly cureth him, and if a mans fingers ends and toes be tyed with the unwashed wool of a Ram, it will stanch the bleeding at any part, especially the Nose. Also if you burn the greasie wool of a very fat Ram, and in water wash the same, it will help all evils in the yard of man, if it be rubbed therewithal.

The broath of the rump of a Ram is commended against blisters. The flesh of a Ram being burnt and anointed upon the body of any leproous person, or any whose body is troubled with Ring-worms or itches is very effectual to cure them. The same force hath it against the bites of Scorpions, and stings of Serpents, and Algerat: it also being taken in wine, is good for the bitings of mad dogs, and healeth the white skins in the eyes. The fat of a Sheep or Weather hath the same in it, as Pork grease, and cureth the suffocation of the womb, and all other diseases incident unto the secret parts, and also helpeth places in the body being burnt by fire. The fat of a Ram being mingled with red Arsenick and anointed upon any scall or scab, the same being afterward pared or scraped, doth perfectly heal it. It doth also being mixed with Allum, help those which are troubled with Kibes or Chilblanes in their heels.

The sewer of a Ram mingled with the powder of a pumice stone and salt, of each a like quantity, is said to heal fellons and inflammations in the body. The Lungs of smal Cattle, but especially of a Ram, doth restore chaps or scars in the body to their right colour. The same vertue hath the fat of a Ram being mingled with Nitre. The gall of a Ram mingled with his own sewer, is very good and profitable for those to use who are troubled with the Gowt or swelling in the joynts. The horn of a Ram being burned, and the dust of the same mixed with oyl, and so pounded together, being often anointed upon a shaven head, doth cause the hair to frisse and curl. A comb being made of the left horn of a Ram, and combed upon the head, doth take away all pain upon the left part thereof, if likewise there be pain in the right side of the head, the right horn of a Ram doth cure it. For the curing of the losse of ones wits springing from the imperfection of the brain, take the head of a Ram never given to venery, being chopped off at one blow, the horns being only taken away, and seethe it whole with the skin and the wool in water, then having opened it, take out the brains, and add unto them these kinds of spices, Cinamon, Ginger, Mace, and Cloves, of each one half an ounce: these being beaten to powder, mingle them with the brains in an earthen platter diligently tempering of them by a burning cole, not very big, for fear of burning, which might easily be done, but there must great care be had that it be not too much dried, but that it might be so boyled that it be no more dried then a Calfs brains being prepared for meat.

It shall be sufficiently boyled when you shall well mingle them at the fire, then keep it hid, and for three days give it dayly to the sick person fasting, so that he may abstain from meat and drink two hours after. It may be taken in bread, or in an Egge, or in whatsoever the sick party hath a desire unto: but there must be regard that he be not in a clear place, and that he use this forty days space, which they are wont to use whose blood is withdrawn or fled away: and let him abstain from wine assaying his head.

There are those which are holpen in a short space, some in six or eight weeks by this Medicine being received. But it is convenient that it be required for three moneths, and then it will have the more power therein. The Lungs of a Ram while they are hot applyed unto wounds wherein the flesh doth too much increase, doth both repress and make it equal. The Lungs of smal Cattle, but especially of Rams being cut in small pieces and applyed while they are hot unto bruised places, do very speedily cure them and reduce them to the right colour.

The same doth cure the feet of such as are pinched through the straightness of their shooes. The Lungs of a Ram applyed unto Kibed heels or broken Ulcers in the feet; doth quite expel away the pain, notwithstanding the exceeding ach or pricking thereof. One drop of the liquor which is boyled out of a Rams lungs put upon the small nails upon the hand, doth quite expel them. The like operation hath it to expel Warts being anointed thereupon. The corrupt blood of the Lungs of a Ram unroasted, doth heal all pains in the privy members of man or woman; as also expel Warts in any place of the body. The juyce of the Lungs of a Ram while they are roasted upon a Gridiron being received, doth by the unction thereof purge and drive away the little black Warts which are wont to grow in the hair or privy parts of any man.

The liquor which distilleth from the Lungs of a Ram being boyled, doth heal Tertian Agues, and the disease of the reins which grow therein. The Lungs of a Lamb or Ram being burned, and the dust thereof mingled with Oyl, or being applyed raw, do heal the soreness of Kibes, and are accounted very profitable to be bound upon Ulcers. The Lungs of a Ram being pulled forth and bound hot unto the head of any one that is frenzie, will presently help him. Against the pestilent disease of Sheep, take the belly of a Ram and boyl it in wine, then being mixed with water, give it to the Sheep to drink, and it will bring present remedy.

Avicenna.

Sextus.

Marcellus.

Marcellus.

Sextus.

Æsculapius.

- Marcellus.* The gall of a Ram is very good for the healing of those which are troubled with any pains in the ears, coming by the casualty of cold. The gall of a Ram mingled with his own sewer, doth ease those which are troubled with the Gowt. The gall of a Weather mingled with the wool and placed upon the navel of young children, doth make them loose in their bellies. The stones of an old Ram being beaten in half a penny weight of water, or in three quarters of a pint of Asses milk, are reported to be very profitable for those which are troubled with the falling sickness. The stones of a Ram being drunk in water to the weight of three half pence, cureth the same disease.
- Pliny.* The dust of the inward parts of a Rams thigh being lapped in rags or clouts, washed very exactly before with womens milk, doth heal the ulcers or runnings of old sores. The dust of the hoof of a Ram mingled with hony, doth heal the bitings of a Shrew. The dung of Weathers mingled with Vinegar and fashioned in the form of a Plaister, doth expel black spots in the body, and taketh away all hard bunches arising in the flesh. The same being applyed in the like manner, cureth St. *Antonies* fire, and healeth burned places.
- Sextus.* The filth or sweat which groweth between the thighs of a Ram being mingled with Myrrh and the Herb called Hart-wort, and drunk of each an equal part, is accounted a very excellent remedy for those which are troubled with the Kings evil. But *Pliny* commendeth the filth of Rams ears mingled with Myrrh, to be a more effectual and speedy remedy against the said disease.

The medicines of the Lamb.

- Actius.* The best remedy for bitings of Serpents is this, presently after the wound to apply some little creatures to the same, being cut in small pieces, and laid hot unto it, as Cocks, Goats, Lambs, and young Pigs; for they expel the poison and much ease the pains thereof. An ounce of Lambs blood being fresh before that it doth congeal mixed with Vinegar, and drunk for three dayes together, is an excellent remedy against the vomiting or spitting of blood. The like force in it hath the blood of a Kid. The blood of a Lamb mingled with wine, doth heal those which are troubled with the Falling sickness, as also those which have the foul evil. For the conception of a Woman, take the yard and gall of a Buck, a Kid, and a Hare, with the blood and sewer of a Lamb, and the marrow of a Hart, and mix them all together with Nard and Oyl of Roses, and after her purgation, let them be laid under her, and this without all doubt will make her apt to conceive.
- Pliny.* The skins of Serpents being anointed with water in a bath, and mingled with lime and Lambs sewer, doth heal the disease called St. *Antonies* fire. The marrow of a Lamb melted by the fire, with the Oyl of Nuts and white sugar, distilled upon a clean dish or platter, and so drunk, doth dissolve the stone in the bladder, and is very profitable for any that pisseth blood. It also cureth all pains or griefes of the yard, bladder or reins. The skin of a Lamb being dawbed or anointed with liquid pitch, and applyed hot unto the belly of any one that is troubled with excoriations of the bowels or of the Bloody flux, will very speedily cure him, if he have any sense or feeling of cold in him.
- Hippocrates.* If a Virgins menstrual fluxes come not forth at the due time, and her belly is moved, it is convenient to apply Lambs skins being hot unto her belly, and they will in short space cause them to come forth. A garment made of Lambs skins is accounted very good for the corroborating and strengthening of young men. The skins of Lambs are more hot then Kids skins, and are more profitable for the confirming of the back and the reins. The little bone which is in the right side of a Toad being bound in a young lambs skin being hot, doth heal both Quartain and all other Fevers being applyed thereunto. The dust of Lambs bones is very much and rightly used for Ulcers which have no chops, or stars in them. The dust of small Cattles dung being mingled with Nitre, but especially of Lambs, hath in them great force to heal Cankers: the dust of Lambs bones, is very much commended for the healing and making of green wounds sound and solid, which thing by the *Saracens* is much verified in regard that at all times they go to war, they never forget to take of the same along with them.
- Marcellus.* The Lungs of Lambs do very effectually cure those whose feet are wrung or pinched by their shoo-soles. The Lungs of Lambs or Rams being burned, and the dust thereof mingled with Oyl, is very profitable for the curing of kibes or ulcers, being applyed thereunto. It hath the same virtue being raw and bound upon the sore.
- Pliny.* The runnet of a Lamb is of very great force against all other evil medicines. The runnets of small Cattle, but especially of a Lamb, is very effectual against all kinds of poyson. The runnets of a Kid, a Lamb, and a hind-calf are conveniently taken against Wolf-bane drunk in wine. The runnet of a Hare, a Kid, or a Lamb taken in wine to the weight of a dram is very effectual against the Fork-fish, and cureth the bites or strokes of all Sea-fishes. The runnet of a Lamb drunk in wine is an excellent cure for the bitings of a Shrew. The runnet of a Lamb drunk in water is accounted for a safeguard to young children who are vexed with thick and concrete milk: or if the default shall happen by curded milk, it will be soon remedied by a Lambs runnet given in Vinegar. A Lambs runnet hid or powred into water, doth speedily cohibit the bleeding of the nose, when nothing else can stay it. The gall of small Cattle, but especially of a Lamb being mixed with hony, are thought to be very medicinable for the curing of the Falling sickness.

The places which are infected by Cankers, being anointed over with the gall of a Lamb are very speedily and effectually healed.

There is also by the Magitians delivered unto us a speedy means for the curing of the milt; which is this, to take a Lamb new born, and instantly to pluck him in pieces with ones hands, and when the milt is pulled out to put it hot upon the milt of the party so grieved, and bind it on fast with swadling cloathes, and continually to say, I make a remedy for the milt; then in the last day the same being taken from his body to put it to the Wall of the bed wherein the diseased party is wont to lie, it being first daubed with durt, that it might the better stick, and to sign the durt with seven and twenty marks, saying at every mark, I make a remedy for the milt: this remedy being done three times it will heal the diseased party, although he be very weak and full of danger. But this is the opinion of the Magitians, which I here set down that they should rather see their folly then believe, knowing them to be meer fopperies. For making the wool to grow flower, the gelders of Cattle anoint the blood which cometh from the stones of gelded Lambs, which being anointed, doth profit very much for hairs being pulled away, as also against poison. The dung of Lambs before they have tasted of any grasse, being dried in the shadow, and rubbed to powder and applied in the manner of a plaister, doth heal and ease all kinds of pain in the chaps or jawes. And thus much for the medicines of the Sheep. Marcellus. Pliny.

Of the *STREPSICEROS*.

There is in *Crete* neer the Mountain *Ida*, a kinde of Sheep called by the Shepherds *Strepsiceros*, which is not different from the vulgar Sheep, except only in the horns, for they bend not like other, but stand straight and upright like the *Unicorn*, and besides are circled about with certain round speers like a Goats horn. This liveth in flocks, and we have here besides the figure of the beast, expressed a double form of their horns, and fore part of their head, the figure of a Harpe being fastned to one of them as it was presently drawn. The description whereof was taken by Doctor *Cay* of *England*, in these words following. Belonius.

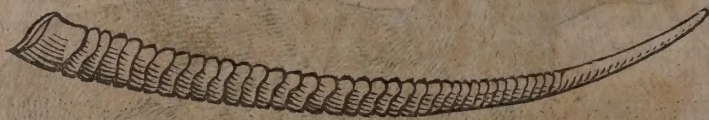
The horns of this *Strepsiceros* are so lively expressed by *Pliny*, and so fitly fitted to bear Harps, that they seem not to aske any further narration of words. I will therefore only add this, they are hollow within, and long, about two *Roman* feet and three palms if you measure them, as they are straight; but if you take their scantling and length as they crook a little, then are they about three foot long, they are in breadth where they joyn to the head, three *Roman* fingers and a half, and their whole compass in that place is about two *Roman* palms and a half. In the top they are smooth and black, but at the root they are more dusky and rugged, growing lesser and lesser to a sharp point. They with the dried face did weigh seven pounds and three ounces, and the face which remaineth is joyned to the horns, and likewise the hair of the neck and face. It is said that this Beast is as great as a Hart, having a red hair like a Hart.

But whether his nostrils were so also I could not conjecture, by reason that the age and long use of the piece had defaced the nose which was dried up, and also the hair was worn away, so as it was bald, but by that which was most apparent unto it, I rather inclined that it resembled a Hart, from



hence it was that the drawer made the nostrils lesse then might answer the proportion of the face, and that which is seen betwixt the horns it is a piece of the neck, by which relation I cannot believe that the *Cretian* or *Idean* Sheep is a *Strepficeros*, because the horns thereof do not bend at all, although it answereth not the name, but the true horns of the *Strepficeros* do as I have said resemble the ancient fashion of harps, among our fore-fathers, especially the handle being taken away, and the face of the beast placed in stead thereof.

Unto this I may add another horn, which is to be seen in the Castle of the L. *William Wernbere* Count of *Cimbria*, being black, hollow, and of the length of ones arme, and as thick as a great staffe, and it was said, that the beast beareth two of them, which are to be seen among the rare monuments of *Ferdinandus* the Emperor.



Of the *SQUIRREL*.



THe name of this Beast is by the *Grecians* called *Sciuros*, and it was given them from the fashion and proportion of their tail, which covereth almost the whole body, for that which is fabulously said of the *Sciapodes* to have feet that cover their whole body, is more truly verified of a Squirrels tail, for in the day time being out of her nest, she hideth her self there under both from sun and rain.

The first Author that ever wrote of this Beast was *Oppianus*, who lived in the days of *Antoninus Caesar*, and the *Latins* have no proper or native name for it, but borrow from the *Grecians*, although some of the latter writers call it *Pirolus*, and *Spiurus*, I think they would say *Sciurus*, for so it is vulgarly termed in *Latin*: some also call it *Sculurus a currendo*, because of his nimble running upon boughs. But all the Nations of the world derive their several denominations from the *Grecians*, as the *English* Squirrel from *Sciurus* is not far fetched; the *French* words *Escurieu*, and *Escuriau*, from whom the *Germans* borrow their words *Eychorn*, or *Eichorn*, or *Eych horn*, or *Eich hermlin*, that a Weasel of the tree, and *Das Eychorn*.

The *Italians* call it *Schirivolo*, and the *Venetians* (as *Massarius* testifieth) *Schiriati*; the *Spaniards* *Harda*, and *Esquilo*, and some do interpret *Coma dreia* for a Squirrel; the *Itlyrians*, *Weweeka*, and some of the *Polonians*, *Wije Wijerka*, and so they turn the Mouse *Varius*, as we have said else where in that story, and some of the *Germans* call it *Werck*, and *Veck*, and *Fech*.

Now *Albertus* and *Agricola* say, that there is no difference betwixt the Mouse *Varius* and the Squirrel, but only in the Region which altereth the colour, and therefore we have expressed the same figure thereof, remitting the Reader to that which is said in that History, for this (say they) in *Germany* is red after it be a year old, but before that time it is blackish, that is till it be a year old: In *Polonia* it is of a red-ash colour, or branded grysell, in *Russia* of an ordinary ash colour, and for the quantity, food, and manner, or natural inclination, it hath the same in all parts with the mouse *Varius*.

Varinus and *Hesychius* say, that the *Grecians* call this beast also *Campsouros*, and *Hippouros*, and some call the *Cappadocian* Mouse *Nexis* a Squirrel; the *Jewes* at this day call a Squirrel *Coach*, for it is apparent that in antient time till they came into these parts of the world into *Grecia* and *Europe*, they never knew or saw this beast. And this shall suffice to have said of the name.

A Squirrel is greater in compass then a Weasel, but a Weasel is longer then a Squirrel, the back parts and all the body is red, except the belly which is white. In *Helvetia* they are black and branded, and they are hunted in the Autumn at the fall of the leaf, when the trees grow naked, for they run and leap from bough to bough in a most admirable and agile manner, and when the leaves are on, they cannot be so well discerned. They are of three colours, in the first age black, in the second of a rusty Iron colour, and last of all when they be stricken in age, they are full of white hoar hairs. Their teeth are like the teeth of Mice, having the two under teeth very long and sharp, their tail is always as big as their body, and it lyeth continually upon their back, when they sleep or sit still; It seemeth to be given them for a covering as we have said already. The maw-gut differeth from all other, for it is *Cocum*, that is, as I take it without a passage out of it into any other part then the other guts, or like a mans bladder; and it is as great as their ventricle, which in dissection hath been found full stuf with excrements. The genital is like a bone, as *Vesalius* writeth.

They use their forefeet in stead of hands, for they sit upon their buttocks, and move their meat to their mouth with them, in this point resembling every little vulgar Mouse, yet being put to the mouth, they hold it in their teeth. They will eat Nuts and Almonds very greedily, and also Apples, Buckmafts, Acorns, and sometimes herbs, especially Lettice, and all other sweet fruits. Their feet are cloven like Mice, and their hinder parts very fleshy to sit upon. In the summer time they build them nests, (which in our Countrey are called *Drayes*) in the tops of the trees, very artificially of stickes and mosse, and such other things as woods do afford them.

The mouth of their nest is variable, sometimes at the sides, and sometimes at the top, but most commonly it is shut against the winde, and therefore I think that she maketh many passages, stopping and opening them as the winde turneth. In Summer time they gather together abundance of fruits and Nuts for winter, even so much as their little *Dray* will hold and contain, which they carry in their mouths, and they lodge many times two together, a male and female (as I suppose.) They sleep a great part of the Winter like the *Alpine* Mouse, and very soundly, for I have seen when no noise of hunters could awake them with all their cries, beating their nests on the outside, and shooting bolts and arrowes thorough it, until it were pulled asunder, wherein many times they are found killed before they be awaked.

They are of incredible agility and motion, never standing still, as it appeareth by them which are tamed. When they leap from tree to tree, they use their tail in stead of wings, which is most apparent, because many times they leap a great distance and are supported without sinking to mans appearance.

And again I have seen them leap from the top of very high trees down to the ground in such an ordinary pace as Birds flie from trees to light on the earth, and receive no harm at all: for when they are hunted, men must go to it with multitude, for many men cannot take one with bowes and bolts with Dogs, and except they start and rouse them in little and small slender woods, such as a man may shake with his hands, they are seldom taken.

Bowes are requisite to remove them when they rest in the twists of trees, for they wil not be much terrified with all the hollowing, except now and then they be struck by one means or other. Well do they know what harbour a high Oak is unto them, and how secure they can lodge therein from Men and Dogs, therefore seeing it were too troublesome to climb every tree, they must supply that business or labor with bowes and bolts, that when the Squirrel resteth, presently she may feel the blow of a cunning Archer, he need not fear doing her much harm, except he hit her on the head, for by reason of a strong back-bone and fleshy parts, she will abide as great a stroak as a Dog; yea, I have seen one removed from a bough with a shot to the ground.

If they be driven to the ground from the trees to creep into hedges, it is a token of their weariness, for such is the stately minde of this little Beast, that while her limbs and strength lasteth, she carryeth and saveth her self in the tops of tall trees, then being descended, she falleth into the mouth of every Cur, and this is the use of Dogs in their hunting.

The admirable wit of this Beast appeareth in her swimmig or passing over the Waters, for when hunger or some convenient prey of meat constraineth her to passe over a river, she seeketh out some rinde or small bark of a Tree which she setteth upon the water, and then goeth into it,

and holding up her tail like a sail, letteth the winde drive her to the other side, and this is witnessed by *Olaus Magnus* in his description of *Scandinavia*, where this is ordinary among Squirrels, by reason of many rivers, that otherwise they cannot passe over, also they carry meat in their mouth to prevent famine whatsoever befall them, and as Peacocks cover themselves with their tails in hot Summer from the rage of the Sun, as under a shadow, with the same disposition doth the Squirrel cover her body against heat and cold.

They grow exceeding tame and familiar to men if they be accustomed and taken when they are young, for they run up to mens shoulders, and they will oftentimes sit upon their hands, creep into their pockets for Nuts, go out of doors, and return home again; but if they be taken alive, being old, when once they get loose, they will never return home again, and therefore such may well be called *Semiferi* rather than *Cicures*.

They are very harmful, and will eat all manner of woollen garments, and if it were not for that discommodity, they were sweet-sportful beasts, and are very pleasant playfellows in a house.

It is said, that if once they tast of Garlick, they will never after bite any thing, and this is prescribed by *Cardan* to tame them, their skins are exceeding warm, and well regarded by skimmers, for their heat is very agreeable to the bodies of men, and therefore they are mixed also with the skins of Foxes. Their flesh is sweet, but not very wholesome, except the Squirrel were a black one. It is tender and comparable to the flesh of Kids or Conies, and their tails are profitable to make brushes of.

The medicines are the same for the most part which are before expressed in the Dormouse, saving that I may add that of *Archigenes*, who writeth, that the fat of a Squirrel warmed on a rubbing cloth, and so instilled into the ears, doth wonderfully cure the pains in the ears. And so I conclude this history of the Squirrel with the Epithets that *Martial* maketh of a Peacock, a Phoenix, and a Squirrel, in a comparison of a beautiful Virgin *Erotion*.

Cui comparatus indecens erat pavo,

Inamabilis sciurus, & frequens Phœnix.

Of the *Getulian Squirrel*, described and figured by *Doctor Cay*.



THis *Getulian* or *Barbarian Squirrel*, is of mixt colour, as it were betwixt black and red, and from the shoulders all alone to the tail by the sides, there are white and russet strakes or lines, which in a decent and seemly order stand in ranks or orders; and there be some of these Squirrels which have such lines of white and black, with correspondent lines in the tail, yet they cannot be seen except the tail be stretched out at length, by reason there is not much hair upon it. The belly seemeth to be like a blew colour upon a white ground. It is a little lesse then the vulgar Squirrel, and hath not any ears extant or standing up as that, but close pressed to the skin round, and arising a little in length by the upper face of the skin. The head is like the head of a Frog, and in other things it is very like the vulgar Squirrel, for both the outward shape, the manner, and behaviour, the meat and means of life agree in both, and she also covereth her body like other Squirrels. This picture and description was taken by him from one of them alive, which a Marchant of London brought out of *Barbary*.

They are very pleasant and tame, and it is very likely that it is a kinde of *Egyptian* or *African Mouse*, whereof there are three sorts described by *Herodotus*, the first called *Bipedes*, the second *Zegeries*, and the third *Echines*, of which we have already spoken in the story of divers kinds of Mice, and therefore I will here end the discourse of this Beast.

of a Wilde Beast in the New-found World called *Su*.

There is a Region in the New-found World, called *Gigantes*, and the Inhabitants thereof are called *Pantagones*; now because their Countrey is cold, being far in the South, they clothe themselves with the skins of a Beast called in their own tongue *Su*, for by reason that this Beast liveth for the most part neer the waters, therefore they call it by the name of *Su*, which signifieth water. The true Image thereof as it was taken by *Thevetus*, I have here inserted, for it is of a very deformed shape, and monstrous presence, a great ravener and untamable wilde Beast. When the Hunters that desire her skin set upon her, she flyeth very swift, carrying her young ones upon her back, and covering them with her broad tail: now forso much as no Dog or Man dareth to approach neer unto her, (because such is the wrath thereof, that in the pursuit she killeth all that cometh neer her:) the Hunters dig several pits or great holes in the earth, which they cover with boughs, sticks, and earth, so weakly that if the Beast chance at any time to come upon it, she and her young ones fall down into the pit and are taken.

This cruel, untamable, impatient, violent, ravening, and bloody beast, perceiving that her natural strength cannot deliver her from the wit and policy of men her hunters, (for being inclosed, she can never get out again,) the Hunters being at hand to watch her downfall, and work her overthrow, first of all to save her young ones from taking and taming, she destroyeth them all with her own teeth; for there was never any of them taken alive; and when she seeth the Hunters come about her, she roareth, cryeth, howleth, brayeth, and uttereth such a fearfull, noysome, and terrible clamor, that the men which watch to kill her, are not thereby a little amazed, but at last being animated, because there can be no resistance, they approach, and with their darts and spears wound her to death, and then take off her skin, and leave the carcass in the earth. And this is all that I finde recorded of this most savage Beast.

of the *SUBUS*, a kinde of wilde Water-sheep.

This Beast is called by *Oppianus Soubos*, and thereof the Latines call it *Subus*. *Bodine* in his interpretation of *Oppianus*, doth make it one beast with the *Strepsiceros*, but because he expresseth no reason thereof, I take it that he was deceived by his conjecture, for we shall manifest, that either the colour or feat of living, cannot agree with the *Strepsiceros*, for he saith only it is the same Beast which *Pliny* calleth a *Strepsiceros*.

But we know by the description of *Oppianus*, that this Beast is of a red-gold-colour, having two strong armed horns on the head, and liveth sometimes in the Sea, and Water, sometime on the land. Of all kinds of Sheep this is the worst and most harmful, ravening after life and blood; for it goeth to the water, and therein swimmeth: when the silly simple fishes see this glorious shape in the waters, admiring the horns, and especially the golden colour, they gather about him in great flocks, and abundance, especially Shrimps, Lobsters, Mackarel, and Tenches, who follow him with singular delight on either side, both the right and the left, pressing who shall come nearest, to touch and have

have the fullest sight of him; so they accompany him in ranks for love of his so strange proportion. But this unkinde and ravening Beast, despising their amity, society, and fellowship, maketh but a bait of his golden outside and colour, to draw unto him his convenient prey, and beguile the innocent fishes, for he snatcheth at the nearest, and devoureth them, tarrying no longer in the water then his belly is filled, and yet these simple foolish fishes seeing their fellows devoured before their faces have not the power or wit to avoid this devourers society, but still accompany him, and weary him out of the waters till he can eat no more, never hating him, or leaving him, but as men which delight to be hanged in silken halters, or stabbed with silver and golden bodkins, so do the fishes by this golden-coloured-devouring-monster. But such impious cruelty is not left unrevenge in nature, for as she gathereth the fishes together to destroy them, so the Fishermen watching that concourse, do entrap both it and them, rendering the same measure to the ravener, that it had done to his innocent companions. And thus much shall suffice for the *Subus* or Water-sheep.

Of the *SWINE* in general.

The several names.

Being to discourse of this beast, although the kinds of it be not many as is in others, yet because there are some things peculiar to the Bore, and therefore he deserveth a special story by himself, I will first of all deliver the common properties in a general Narration, and afterward descend to the special. For the names of this beast, there are many in all languages, and such as belong to the several sex and age of every one. For as in *English* we call a young Swine a Pig, a Weaning Pig, a Sheat, a Yealk, and so forth: likewise a Hog, a Sow, a Barrow, a Libd-hog, a Libd-sow, a Splayed Sow, a Gelt Sow, a Bafs, for the elder Swine, so in other Nations they observe such like titles. The *Hebrews* call a Bore *Chasir*, and a Sow *Chaserah*, the *Chaldees*, Deut. 4. for *Chasir* translate *Chasira*; the *Arabians*, *Kaniser*; the *Persians*, *Maran-buk*; the *Septuagints*, *Hus*; and *S. Hierom*, *Sus*; the *Arabians* also use *Hazir*, and *Acanthil*, for a Hog, *Achira*, and *Scrofa*.

Sylvaticus.

The *Grecians* do also use *Sus*, or *Zus*, *Choiros*, and *Suagros*. The wilde Hog is called *Kapron*, from hence I conjecture is derived the *Latine* word *Apex*; the *Italians* do vulgarly call it *Porco*; and the *Florentines* peculiarly *Ciacco*; and also the *Italians* call a Sow with Pig *Scrofa*, and *Troiata*, or *Porco fatrice*. The reason why that they call a Sow that is great with Pig *Trojata*, or *Trojaria* is for the similitude with the *Trojan Horse*, because as that in the belly thereof did include many armed men, so doth a Sow in her belly many young Pigs, which afterward come to the table and dishes of men. A Barrow hog is called *Majali* in *Latine*, and the *Italians*, *Porco castrato*, and *Lo Majale*. The *French* call a Swine *Porceau*, a Sow

Alumnus.
Erythraeus.



True Cooche, a Bore Verrat, a Pig Cochon Porcelet, and about Lyons, Cajon. The barrow Hog they call Por-chastre. The Spaniards call Swine Puerco; the Germans, Saw, or Suw, Su, schwin, Schwin, a Sow they call Ma and Loofs, a Bore Aker, which seemeth to be derived from Aker, a Barrow Hog Borg, a splayed Sow Gultz, a Pig Earle, and Seuwle, and a sucking Pig Spanfoerle. In little Britain they call a Hog Houch, and thereof they call a Dolphin Merhouch. The Illyrians call Swine Swinge, and Trase; the Latines, Sus, Porcus, and Porcellus, and Scrofa; and these are the common and most vulgar tearms of Swines: If there be any other, they are either devised or new made, or else derived from some of these.

Concerning the Latine word *Sus*, *Isidorus* deriveth it from *Sub*, because these Beasts tread under-foot grafs and grain, and indeed for this cause the Egyptians kept their Swine in the hills all the year long, till their seed time; for when their corn was sown, they drove them over their new plowed lands, to tread in the grain, that the Fowls and Birds might not root it or scrape it forth again; and for this cause also they spared Swine from Sacrificing. But in mine opinion it is better derived from *Hus*, the Grek word: For the Latine, *Porcus*, is thought to be fetched from *Porreus*, because his snout is alway stretched forth, and so he feedeth, digging with it in the earth, and turning up the root of trees: but I better approve the notation of *Isidorus*, *Porcus quasi spurcus, quia ceno & limo se volutat*. That is, because it rowleth and walloweth in the mire. *Porcetra* or *Porceta* for a Sow that hath had but one farrow, and *Scropha* for a Sow that hath had many. The Grecians *Hus* is derived from *Thuein*, which signifieth to kill in sacrifice, for great was the use of sacrificing this beast among the Paynims, as we shall shew afterward. The ancient Grecians did also tearm Swine *Sika*, and when the Swine-herds did call the Beasts to their meats, they cryed *Sig, Sig*: as in our Countrey their feeders cry *Tig, Tig, Chirois*, of their feeding and nursing their young ones. And indeed from Swine we finde that many men have also received names, as *Scipio Suarius*, and *Tremellius Scrofa*, whereupon lyeth this history, as he writeth: when *Licinius Nerva* was Prætor, his great Uncle was left Questor in his absence for *Macedonia*, untill the Prætor returned. The enemies thinking that now they had gotten opportunity and advantage against their besiegers or assaylants, caused an onset to be made, and a fight to be offered, then his Uncle exhorting the Roman Souldiers to arms, told them, *Se celeriter hostes discedit ut Scrofa porcellas*, That he would as easily cast them off and scatter them, as a Sow doth her Pigs sucking her belly, which he performed accordingly, and so obtained a great victory, for which *Nerva* was made Emperor, and he was always evermore afterward called *Scrofa*.

Macrobius telleth the occasion of the name of the family of *Scrofa* somewhat otherwise, yet pertaining to this discourse. *Tremellius*, saith he, was with his family and children, dwelling in a certain Village, and his servants seeing a stray Sow come among them, the owner whereof they did not know, presently they slew her, and brought her home. The neighbour that did owe the Sow called for witnesses of the fact or theft, and came with them to *Tremellius*, demanding his *Scrofa* or Sow again. *Tremellius* having understood by one of his servants the deed, laid it up in his Wives bed, and covering it over with the clothes, caused her to lie upon the Sows carcase, and therefore told his neighbour he should come in and take the *Scrofa*, and so had brought him where his wife lay, and swore he had no other Sow of his but that, shewing him the bed, and so the poor man was deceived by a dissembling oath, for which cause (he saith) the name of *Scrofa* was given to that family. There was one Pope *Sergius*, whose christen and first name was *Os porci*, Hogs face, and therefore he being elected Pope, changed his name into *Sergius*, which custom of alteration of names, as that was the beginning, so it hath continued ever since that time among all his successors. Likewise we read of *Porcellus* a Grammarian, of *Porcellius*, a Poet of Naples, who made a Chronicle of the affairs of *Frederick* Duke of *Urbine*, *Porcius*, *Snillus*, *Verres* the Prætor of *Sicilia*, *Syandra*, *Sybotus*, *Hyas*, *Hyagnis*, *Gryllus*, *Porcilla*, and many such other give sufficient testimony of the original of their names from Swine, and not only men, but people and places; as *Hyatæ*, *Suales*, *Chorreata*, three names of the Dori in Greece: *Hyia* a City of *Locris*, *Hyamena* a City of *Messene*, *Hyamajon* a City of *Troy*, *Hyampolis* a City of *Phocis*; whereby to all posterity it appeareth, that they were Swineherds at the beginning; *Exul Hyantænos invenit regna per agros*. *Hyope*, *Hyops* a City in *Iberia*, *Hyfia* a City of *Bœotia*, and *Pliny* calleth the tall people of *Ethiop*, which were eight cubits in height *Sybotæ*, and the like I might adde of many places, Cities, People, Fountains, Plants, Engins, and devises, plentiful in many Authors; but I will not trouble the Reader any longer with that, which may be but thought to be unnecessary. Only I cannot contain my self from the fiction of a Swines name and Testament, or last Will, for the mirth and wit thereof, as it is remembred in *Cælius*, and before in *S. Jerom*, and lastly by *Alexander Braccianus*, and *Geo. Fabritius*, I will express both in Latine and English in this place.

M. Grutinius *Corocotta Porcellus testamentum feci, quod quoniam manu mea propria scribere non potui, scribendum distavi. Magirus cocus dixit, veni huc everfor domi, soliverfor fugitive porcelle, ego hodie tibi vitam addamo. Corocotta porcellus dixit, si qua feci, si qua peccavi, si qua vascula pedibus meis confregi, rogo domine coque, vnam peto, roganti concede. Magirus coquus dixit, transi puer, adfer mihi de culina cultroem, ut hunc porcellum cruentum faciam. Porcellus comprehenditur à familia ductus sub die 16. Cal. Lucerninus, ubi abundant cyme, Clibanato & Piperato consulibus, & ut vidit se moriturum esse, hora spaciū petiit, coquum rogavit, ut testamentum facere posset. Inclamavit ad se suos parentes, ut de cibariis suis aliquid dimitteret eis, qui ait, Patri meo Verrino Lardino, do, lego, dari glandis modios 30. & matri mee Veturina Scrofae do, lego*

The etimology of the Greek and Latine names.

A history of the family of *Scrofa*.

Cælius. Names of men taken from Swine.

Alex. ab Ale.

A fiction of a Hogs will and testament.

lego, dari Laconicae filiginis modios 40. & sorori meae Quirinae, in cuius votum intercesse non potui, do, lego, dari hordei modios 30. & de meis visceribus dabo, donabo sutoribus setas, rixatoribus capitinas, surdis auriculas, caudicibus & verbosis linguam, bubularis intestina, esiciariis femora, mulieribus lumbulos, pueris vesicam, puellis caudam, cinedus musculos, cursoribus & venatoribus talos, latronibus ungulos, & nec nominando coquo, do, lego, ac dimitto popam & pistillam, quae mecum detuleram à querceto usq; ad haram, liget sibi collum de reste. Volo mihi fieri monumentum ex literis aureis scriptum. M. Grunnius Corocotta porcellus vixit annos CCCC. x. 9. quod si semis vixisset, mille annos complevisset. Optimi amatores mei vel consules vitae, rogo vos ut corpori meo bene ficiatis, bene condiciatis, de bonis condimentis nuclei, piperis, & mellis, ut nomen meum in sempiternum nominetur. Mei domini, & consobrini mei, qui huic testamento interfuistis, jubete signari. Testes.

Lucanicus signavit, Tergillus signavit, Nuptialicus fig.
Celsanus sign. Lardio sign. Offeliens sign. Cymatus sign.

In English without offence I may translate it thus; I, M. Grunter Hog-son little Pig have made this my last Will and Testament, which because I could not write with my own hand, I have caused it to be endited by other. Magirus the Cook said unto me, come hither thou underminer of houses, thou rooter up of land, fearful, fugitive little Pig, I must this day take away thy life. To whom Hog-son made this answer; If I have done any harm, if I have offended, if I have trod in pieces any vessels of worth under my feet, then I intreat thee good M. Cook pardon me, and grant me my request. But Magirus the Cook said, Run (sir Kitchen-boy) and bring me a knife out of the Kitchen, that I may let this little Pig bleed: presently I the little Pig was taken by the servants, and by them led the xvi. day of the Calends of Torch-light into the place of Cool-worts, when Fiery-furnace and Pepper-spice were Consuls, and when I saw no remedy but that I must die, I entreated the Cook but an hours space to make my Will. Which when I had obtained, I call'd my Parents and Friends about me, and made my Will in manner following: Of all my meat and provision left behinde me, first I give unto Bore-brown my father 30 bushels of Buck-mast. Item I give to my mother Town-fow, 40 bushels of the best Wheat. Item I give my sister Whine-pig 30 bushels of Barly, and for my bowels I bestow them in manner following; I bequeath my bristles to the Coblers and Shoemakers, my brains to Wranglers, my ears to the deaf, my tongue to Lawyers and Pratlers, my intrails to the Tripe-makers, my thighs to the Pye-makers, my loins to women, my bladder to boys, my tail to young maids, my muscles to shameless Dancers, my ankle-bones to Lackyes and Hunters, my hoofs to Thieves. Item I give unto this (unworthy to be named) Cook the Knife and the Pestle, that I brought out of the spinny of an Oak, into my sty, and so let him tie his neck with a halter. Also my Will is, that there be made for me a monument, wherein shall be ingraven in Golden Letters, this inscription or title, M. Grunter Hog-son, Little-pig, lived nine hundred ninty nine years and a half, and if he had lived but one half year longer, he had lived a thousand years. And you my Lovers and best Counsellors of my life, I beseech you do good to my dead carcase, salt it well with the best season of Nutmegs, Pepper, and Hony, that so my name and memory may remain for evermore. And you my Masters and Kindred which have been present at the making of my Will, I pray you cause your marks to be put thereunto.

Witnesses;

Wood-hogs mark, Bristle-backs mark, Town-boars mark,
Mountain-hogs mark, Bacon-hogs mark, Swill-hogs mark,
Marsh-hogs mark.

The epithets of
Swine.

I have expressed this discourse for no other purpose but to shew the Reader, what proper feigned names have been or may be given to Swine, and so not to hold him any longer in this discourse, I will proceed from the names to the natures of this Beast. And first of all to begin with the common and vulgar epithets, which are as so many short definitions as they are words, as that of Horace, *Amica sus luto*, a dirt-lover, cloven-footed, beastly, clamorous, Acron-eater, rough, horrible, fearful, sluggish, filthy, unclean, impatient, loud, glad of food, miry, fat, wet, follower, moist, greedy, tender, and milk-sucker, according to the Poets sayings;

Lacte mero pascum pigra mihi matris alumnus,
Ponat: & Aetolo de sue dives edat.

Countries
wherein Swine
do not breed.

Swine are in the most Countries of the world. Yet Aristotle and Aelian report, that there are none in India, and Arabia Scen: and moreover there is in the people of those countries such a detestation of them that they cannot endure to eat their flesh, which is not wrought in them by any instinct or opinion of Religion (as it is in the Jews) but rather by a natural inclination of the place and Region wherein they live, for it is said also, that if Swine be brought thither from any other place, they die within short space.

Pliny affirmeth, that there are Boars among some of the Indians which have horns, and the like is affirmed of the Ethiopians. The Swine of Sicily are accounted the best of all other for food. In Bavaria they are lean, but in Burgundy, or the neather Germany, they are fierce, strong, and very fat. Those which are carried into Hispaniola, are said to grow to the stature of Mules.

Pet Martyr.

Now concerning the several parts of Swine, it is most certain that inwardly they do more resemble

a mans body then an Ape, for as all writers do affirm, that outwardly the proportion of Apes comé nearest to men, according to the Poets verse;

Simia quam similis turpissima bestia nobis.

So on the other side a Swines Anatomy doth more lively express the inward members and seat of life, and therefore our predecessors did first of all dissect a Swine, and then a Man, for the Swine was an example or Introduction to the other; and in Swine they chuse a lean Hog, because that all the vessels and instrumental parts do better and more clearly appear to the sight then in a fat Hog. There is not according to *Aristotle*, much marrow in their bones, and their skin is all over rough and hairy, and yet the hair not so thick as an Oxes, yet much longer and stiffer, standing up upon the ridge of the back; the colour of Swine is uncertain, and varieth not only after the diversity of the Countrey, but in every Countrey it is divers in it self, some are white, some branded, some sanded, some red, some black, some pyed, some none of these, and some all of these; yet in *Germany* for the most part red, and in *France* and *Italy* black.

The anatomy
and several
parts.

Betwixt the skin and the flesh there lyeth a fat called *Lardo*, *larde*, and *Arquina*. Their brain is very fat, and in the wane of the Moon it is less then any other beasts. Their eyes are hollow, and stand very deep in their heads, and therefore cannot by Art of man be taken out without danger of death, and if one of them be at any time perished, it is a hazzard but the Swine dyeth.

Their eye-brows move more downward toward their noses, and are again drawn up toward their temples, and their fore-head is very narrow, by which in ancient time they judged or deemed a fool or foolish unwise disposition, as by standing up of the lips about the canine teeth, betokeneth a contumelious and clamorous rayler, and thick lips, and a round mouth standing forth, the disposition of a Hog.

The snout is long and strong, and yet broad to cast up the earth for food, having on the tip a rising gristle round, and more piked, at the top betwixt the nostrils, wherewithal it first entereth the earth by digging. Upon their under chap there are teeth which grow out of their head, and the Boars have some which the females have not; For even as the Elephant hath two teeth growing downward, so hath the Boar two growing upward. The male as we have said, hath more then the female, and neither of both do lose or change them by any course of nature. As the Horse hath his mane, so hath a Swine certain bristles on his neck (called therefore by the *Grecians*, *Lophia*) this neck is broad and thick, and in it lyeth the strength of the beast, and therefore it is observed by the Physicians, that a man with such a neck is an angry fool.

Aristotle.

The collop next to the neck called vulgarly *Callasum*, ought to be broad and stiffe. It is said of sore Harts, that they have their gall in their ears, and indeed in the ears of Swine there is found a certain humor not much unlike to a gall: yet less liquid, and therefore by reason of the density or thickness thereof, comparable to the humor of the Spleen. The ventricle is large to receive much meat, and to concoct it perfectly, we call it vulgarly the Buck, and there are in it but few smooth ribs or crests, and in the liver parts which are very great, there is a certain hard thing white like a stone. The females have twelve udders or dugs under the belly, but never less then ten, if they want of twelve; and the Boars have their stones on their seat behinde them joyned together, which being taken off, are called by the *Latines*, *Polimenta*.

But in the female there is a great miracle of nature, for the place of conception is only open to the udders, or downward, but when her lust cometh on her, by often tickling and striving she turneth it about to meet with the Boars instrument in generation. And this bag is called *Apria*, which hangeth in the female inward, as the stones of the Boar do outwardly.

Aristotle.

In some places there are Swine which are not cloven-footed, but whole hoofed like a Horse, yet this is very seldom or accidental, for the most part all are cloven-footed, *Aristotle* affirmeth, that there are Swine whole hoofed in *Illyria*, *Pæonia*, and *Macedonia*, and *Albertus* saith, that he hath been informed of some such seen in *England*, and also in *Flanders*.

The Ankles are doubtful, as it were in proportion betwixt the Ankle of a whole and of a cloven hoof. Now by this that hath been said and shall be added, we must make up the description of a perfect Swine, for the better knowledge of the Reader, which may be this, of a straight and small head. The best form is to have large members, except the head and feet, and of one uniform colour, not parted or variable, not old, but of a good race or breed.

There be some that for the choice of their Swine do make this observation, they chuse them by their face, by the race, and by the Region; by the face, when the Boar and Sow are of good and beautiful aspects; by the race, if they bring forth many and safely, not casting Pigs; by the Region, when they are not bred where they be of a small, slender, or vile stature, and especially this is observed in the male, because that in all beasts they are oftentimes more like the sire then the dam; therefore it is better in Swine to have a thick, round, and well set Hog, then a long sided one, howbeit some approve Hogs with long legs. The buttocks ought to be fleshy, the belly large and prominent, and the snouts short and turning upward, yet the Sow is best, that hath the largest sides, if all the other members be correspondent.

The choice
or outward
marks of the
best Swine.

Likewise in cold Countries they must chuse their Swine with rough and thick hair, but in warmer and more moderate Climats, any hair be it never so small will serve the turn, especially if it be black. And thus much shall serve in this place for their several parts and members: Now we will proceed on to their nourishment and copulation.

It

The food of
Swine.

It is most certain that Swine are of a hot temperament, and for that cause it cometh to pass that they do not loose their Winter hair, for by reason of the fat neer to their skin, there is abundance of heat which keepeth fast the roots of the hair. Their food therefore and nourishment is easily digested in every part, for that which is so strong in the nouriture of the hair, must needs be of correspondent power in other parts. Some have thought that Swine care not for grasse or herbs, but only roots, and therefore hath a peculiar snout to attain them, but I finde by experience, that they will eat grasse above the earth, as well as roots beneath, and they love to feed in herds together. They love above measure Acorns, and yet being given to them alone they are hurtful, and bring no less damage to them then to Sheep, (though not so often) especially to Sows that be with Pig. The best time for gathering of Acorns is in November, and it is a work for women and children. The Woods of Italy are so full of Acorns, that they nourish abundance of Swine, and that therewith are fed the greatest part of the Roman people.

Nigidius.

They delight also in Buck-mast, and that meat maketh the Swines flesh light, easie of digestion, and apt for the stomach: In some Countries Haws have the same vertue to fat Hogs, that is in Acorns, for they make them waighty, straight, neat, and sweet. The next unto this Holm-berries do fat Hogs, saving that they procure looseness, except they be eaten by little and little. There is a tree which hath such bitter fruit (called *Haliphlocus*) whereof no beast will taste, hereof Hogs will tast, but in extreame famin and hunger, when they are without all other food and meat.

Pliny.

The fruit or Apples of Palm-trees (especially such as grow in salt grounds near the Sea sides, as in Cyrene of Africa, and Judea, and not in Egypt, Cyprus, Syria, Helvetia, and Assyria) do fatten and feed Hogs: And indeed there is scarce any food whereof they do not eat, as also no place wherein they pick not out some living, both in Mountains and Fens, and plain fields, but best of all near waters, wherein by the banks sides they gather many sweet and nourishable morsels.

Places of their
abode.

There are no better abiding places for Hogs then are the Woods, wherein abound either Oakes, Beeches, Cork-trees, Holm, wilde Olives, Tamarisk, Hasels, Apples, or Crab-trees, white Thorn, the Greek Carobs, Pine-trees, Corn-trees, Lote-trees, Prune-trees, Shrubs, Haws, or wilde Pears, or Medlers, and such like; for these fruits grow ripe successively one after the other, for there is no time of the year wherein some of them are not to be gathered soft and nourishable, whereby the herds of Swine may be maintained.

But if at any time this food cease, and not to be found, then must there be some other provision out of the earth, such as is corn, or grains, and turn your Hogs to moist places, where they may pick up worms, and suck up fat fenny water, which thing is above all other things grateful to this beast; for which cause it pleased the holy Ghost in Scripture, to compare the pleasure that beastly men take in sinning, to the wallowing of Swine in the mire. *The Dog (saith S. Peter) is returned to his vomit, and the Sow that was washed to wallow in the mire.* For this cause also you must suffer them to dig in the water, and to eat Canes and wilde Bulrushes, likewise the roots and tops of Water-creffes; and you must provide to lay up for them in water Acorns, and not spare corn to give it them by hand, as Beans, Pease, Fitches, Barly, and such like. And *Columella* (from whom I have taken these instructions) addeth moreover, that in the Spring time before your Hogs go abroad to bite at the sweet and fresh growing herbs, lest they provoke them to looseness, you must give them some sodden drink, wash or swill, by vertue whereof that mischief must be avoided, for if it be not, such leanness will follow, that it will overthrow and kill them.

Varro.

In some Countries they also give them the scapes or refuse Grapes of Vintage, and moreover the fruits of yew tree, which is poyson to Dogs. *Aristomachus* the Athenian by many and sundry praises advanceth three-leaved-grass, and among other, for that as when it is green it is commodious for Sheep, so being dried it is wholesome to Swine. They love green corn, yet it is reported, that if Swine eat of it in the Isle of *Salamine*, their teeth by the law of the Countrey are beaten out of their mouths. It is wholesome to give them crude or raw Barly, especially to a Bore when he is to couple with a Sow, but unto a Sow with Pig fod.

Ælianus.

There is in *Bavaria* a kinde of Scallion which beareth a red purple-flower, like to the flower of the Lilly of the Vallies, which is greatly sought after and devoured by Swine. They also seek after wilde Vines, and the herb called Hogs-bread, and the root of wilde rapes, which beareth leaves like unto Violets, but sharper, and a white root without milk: By some it is called Buchspick, because it groweth in Woods among Beeches. They eat also flesh, and abstain not from fat Bacon, and herein they differ from most of the ravening creatures, for Dogs will not taste of Dogs flesh, and Bears of Bears, yet will Hogs eat of Swines flesh, yea many times the dam eateth her young ones: And it is found that Swine have not abstain'd from the flesh of men and children, for when they have been slain by theeves, before they could be found, the greatest part of their body was torn in pieces and eaten by wilde Swine: And indeed as we see some Hens eat up the Eggs that they themselves have laid, so shall we observe some Sows to devour the fruits of their own wombs, whereat we ought not to marvel as at a monstrous prodigious thing, but rather acknowledge a natural voracity, constrained in them through famine and impatience.

Albertus.
Ælianus.

They also eat Snails and Salamanders, especially the Boars of the Mountains in *Cilicia*, and although there be in Salamanders a very deadly poyson, yet doth it not hurt them at all, but after-

afterward when men or beasts tast of such a Swines flesh, the operation of the poyson worketh upon them mortally: neither is this any marvel, for so it is when a Frog eateth of a Toad: and whereas if a man eat Hemlock, presently all his blood congealeth in his body and he dyeth, but if a Hog eat thereof, he not only not dyeth, but thriveth and groweth fat thereby. *Aristotle* reporteth one great wonder of a place about *Thracia* (as he saith) wherein for the compass of twenty paces there groweth Barly, whereof men eat safely, but Oxen and Sheep, and other creatures avoid it as mortal poyson, and Swine will not vouchsafe to tast of mens excrements that have eaten thereof, but avoid them carefully.

As Swine delight in meat, so also they delight more in drink, and especially in the Summer time, and therefore they which keep sucking Sows, must regard to give them their bellyful of drink twice a day, and generally we must not lead them to the waters as we do Goats, and Sheep, but when the heat of Summer is about the rising of the Dog-star, we must keep them all together by water sides, that so they may at their own pleasure, both drink and lie down to wallow in the mire, and if the coasts be so dry that this cannot be obtained or permitted, then must they have water set in troughes and vessels, whereof they may tast at their own pleasure, for otherwise through want of water they grow Liver and Lung sick.

The miery water doth most quickly make them fat, and they will drink Wine or Beer unto drunkenness, and in those Countries where Grapes grow, if the Swine come into the Vintage, they grow drunk with eating of Grapes. Also if the Lees of Wine be mingled with their meat, they grow fat above measure and senseless in their fat, whereby it hath been seen that a Mouse hath eaten into the sides of a fat Hog without the resistance of the beast: and the like is reported by *Pliny* of the son of *L. Apronius* who had been a Consul, for his body grew so fat that it was taken from him, his body remaining immoveable. And in the Spring time Swine of their own accord grow so fat, that many times they cannot stand on their legs their bodies be so heavy, nor go any whit, so that if they are to be removed, they are not to be droven but to be carryed in a Cart.

Varro and *Crescentienfis*, do report admirable things of the fatness of Swine. For first *Varro* saith, that he received knowledge from a credible honest man in *Portugal*, of a Swine that there was killed, the offall whereof with two ribs was sent to *Volumnius* a Senator, which weighed twenty and three pounds, and the fat betwixt the skin and the bone, was a foot and three fingers thick. Unto this he addeth the story of the *Arcadian* Sow, who suffered a Mouse to eat into her fat, and breed young ones therein, after she made a nest: which thing he likewise affirmeth of a Cow. And *Crescentienfis* reporteth of an other *Lusitanian* Swine, which after the death, weighed five hundred seventy and five pounds, and the Lard of that Hog was one foot and three fingers broad. And the like may be said of a Hog at *Basil*, nourished by a certain Oyl-man, in whose Lard or fat, after his death were found many passages of mice to and fro, which they had gnawed into his body without the sense of the beast. Hogs grow fat in short time. In antient days (as *Pliny* writeth) they put them up to fattening threescore days, and first of all they made them fast three days together, after six days they may sensibly be perceived to grow fat. There is not any beast that can better or more easily be accustomed to all kinds of food, and therefore doth very quickly grow fat, the quantity and stature of their body considered; for whereas an Ox or Cow, or Hart, and such like Beasts aske long time, yet a Swine which eateth of all sorts of meat, doth very quickly even in a moneth or two, or three at the most, prove worthy the knife and also his Masters table, although in some places they put them up to fattening a whole year together, and how much they profit & gather in their feeding, it is very easie for them to observe that dayly keep and attend them, and have the charge and overseeing of them.

And there must be had great care of their drink. In *Thracia*, after they put up a Hog to fattening, they give him drink the first day, and then let him fast from drink two days, and so give him drink by that proportion till the seventh day, afterward they observe no more diet for their Swine, but give them their fill of meat and drink till the slaughter day. In other Countries they diet them in this sort; After Beans and Pease they give them drink abundantly, because they are solid and hard; but after Oats and such like, as meal, they give them no drink, lest the meal swim up and down in their belly, and so be ejected into the excrements without any great profit. There is nothing whereon it liveth, but thereby it will grow fat except grazing, and therefore all manner of grain, Millet seed, Figs, Acorns, Nuts, Pears, Apples, Cucumbers, Roots, and such things cause them to rise in flesh gratefully, and so much the sooner if they be permitted to root now and then in the mire.

They must not be used to one simple, or unmingled, or uncompounded meat, but with divers compounds, for they rejoyce in variety and change like other beasts, for by this mutation of food, they are not only kept from inflammation and windiness, but part of it alway goeth into flesh, and part into fat.

Some use to make their sty wherein they are inclosed to be very dark and close, for their more speedy fattening, and the reason is good, because the beast is more apt to be quiet. You shall have Bakers that will fat their Hogs with Bran; and in *Elfaia* a Countrey of *Germany*, they fat them with Bean-meal, for thereby they grow fat very speedily, and some with Barly-meal wet with flat milk. And in the *Alpes* they fat them with Whay, whereby their fat and flesh groweth more white and sweet then if they were fatted with Acorns; yet Whay is very dangerous: for such is the ravening intemperancy of this beast, to swill in whatsoever is pleasant to his tast, that many times in drinking of Whay their bellies grow extended above measure, even to death, except that they be dieted by a wise keeper, and driven up and down not suffered to rest till it flow forth again backward.

Y y

Barly

Columella.

The great fatness of Swine.

The meat and best manner to fatten Hogs.

Ælianus.

Barly is very nourishable to them, whether it be sod or raw, and especially for Sows with Pig, for it preserveth the young ones till delivery, and at the farrowing causeth an easie and safe pigging. And to conclude this part, Millers and Bakers eat with Meal and Bran, Brewers with Ale, or Barly steeped in Ale, Oyl-men with the refuse of Nuts and Grapes.

Albertus.

Some again there be that grow fat with the roots of Fern. When a Sow is very fat she hath alway but little milk, and therefore is not apt to make any good tidy Pigs, and yet as all other beasts grow lean when they give suck, so also doth Swine. All swine in hot Regions by reason of a viscous humor, grow more fat then in the cold regions. In that part of *Frisia* neer *Germany*, they fat Oxen and Swine with the same meat, for there you shall have in one stable an Ox and a Hog tyed behind him at his tail, for the Ox being tyed to the rack eateth Barly in the straw and chaffe, which he swalloweth down without chewing, and so the softest thereof is digested in his belly, and the other cometh forth whole in his dung, which the Hog licketh up and is therewithal fatned. And it is to be remembered, that Swine gelded or splaid, do sooner fatten then any other.

To conclude, they love the dung of men, and the reason thereof is, because the seat of their lust is in their Liver which is very broad and insatiable, and there is nothing that hath a duller sense of smelling then this Beast, and therefore it is not offended with any carrion or stinking smell, but with sweet and pleasant ointments, as we shall shew afterwards.

Of the copulation and breed of Swine.

Concerning their generation or copulation, it is to be noted, that a Boar or male Swine will not remain of validity and good for breed past three year old, by the opinion of all the antient, for such as he engendereth after that age, are but weak and not profitable to be kept and nourished. At eight moneths old he beginneth to leap the female, and it is good to keep him close from other of his kinde for two moneths before, and to feed him with Barly raw, but the Sow with Barly sodden. One Boar is sufficient for ten Sows; if once he hear the voice of his female desiring the Boar, he will not eat untill he be admitted, and so he will continue pining, and indeed he will suffer the female to have all that can be, and groweth lean to fatten her; for which cause *Homer* like a wife husbandman prescribeth, that the male and female Swine be kept asunder till the time of their copulation. They continue long in the act of Copulation, and the reason thereof is, because his lust is not hot, nor yet proceeding from heat, yet is his seed very plentiful. They in the time of their copulation are angry, and outrageous, fighting with one another very irefully, and for that purpose they use to harden their ribs by rubbing them voluntarily upon trees. They choose for the most part the morning for copulation; but if he be fat and young, he can endure it in every part of the year and day, but when he is lean, and weak, or old, he is not able to satisfy his females lust, for which cause she many times sinketh underneath him, and yet he filleth her while she lyeth down on the ground, both of them on their buttocks together.

They engender oftentimes in one year, the reason whereof is to be ascribed to their meat or some extraordinary heat, which is a familiar thing to all that live familiarly among men, and yet the wilde Swine couple and bring forth but once in the year, because they are seldom filled with meat, endure much pain to get and much cold; for *Venus* in men and beasts, is a companion of satiety, and therefore they only bring forth in the spring time, and warm weather, and it is observed that in what night soever a wilde Hog or sow farroweth, there will be no storm or rain. There be many causes why the tame domestickall Hogs bring forth and ingender more often then the wilde; first because they are fed with ease; secondly because they live together, without fear, and by society are more often provoked to lust; on the other side the wilde Swine come seldom together, and are often hungry, for which cause they are more dull and lesse venereous, yea many times they have but one stone, for which cause they are called by *Aristotle* and the antient *Grecians* *Chlunes* and *Monorchis*.

The times of a Sows Boaring.

But concerning the Sow, she beginneth to suffer the Boar at eight moneths of age, although according to the diversity of Regions and air, they differ in this time of their copulation, for some begin at four moneths, and other again tary till they be a year old: and this is no marvel, for even the male which engendereth before he be a year old, begetteth but weak, tender, and unprofitable Pigs. The best time of their admision is from the Calends of *February* unto the Vernal Equinoctial, for so it hapneth that they bring forth the young in the Summer time, for four months she goeth with young, and it is good that the Pigs be farrowed before harvest, which you purpose to keep all the year for store. After that you perceive that the Sows have conceived, then separate them from the Boars, lest by the raging lust of their provoking, they be troubled and endangered to abortment. There be some that say, a Sow may bear young till she be seven year old, but I will not strive about that whereof every poor Swineherd may give full satisfaction. At a year old a Sow may do well, if she be covered by the Boar in the moneth of *February*. But if they begin not to bear till they be twenty moneths old, or two years, they will not only bring forth the stronger, but also bear the longer time even to the seventh year, and at that time it is good to let them go to rivers, fens, or miery places, for even as a Man is delighted in washing or bathing, so doth Swine in filthy wallowing in the mire; therein is their rest, joy, and repose. *Albertus* reporteth that in some places of *Germany* a Sow hath been found to bear young eight years; and in other till they were fifteen years old; but after fifteen year it was never seen that a Sow brought forth young Pigs. If the Sow be fat, she is always the lesse prone to conceive with young, whether she be young or old. When first of all they begin to seek the Boar, they leap upon other Swine, and in process call forth a certain purgation called *Aprya*, which is the same in a Sow which *Hippomanes* is in a Mare, then they also leave their herd-fellows, which kinde of behavior or action, the *Latins* call by a peculiar Verb *Subare*, and that is applied to Harlots and wanton Women, by *Horace*;

Jamq;

*Jamq; subando,
Tenta cubilia teſtaq; rumpit.*

We in English call it Boaring, because she never reſteth to ſhew her deſire till ſhe come to a Boar, and therefore when an old Woman luſteth after a man, being paſt luſt by all natural poſſibility, ſhe is cald *Anus ſubans*. And the Beaſt is ſo delighted with this pleaſure of carnal Copulation, that many times ſhe falleth aſleep in that action, and if the male be young or dull, then will the female leap upon him and provoke him; yea in her rage ſhe ſetteth many times upon men and women, eſpecially if that they do wear any white Garments, or if their *Apria* and privy place be wetted and moiſtned with Vinegar. They have their proper voices and cries for this time of their Boaring, which the Boar or male underſtandeth preſently.

They are filled at one Copulation, and yet for their better ſafeguard, and to preſerve them from abortment, it is good to ſuffer the Boar to cover her twice or thrice; and moreover, if ſhe conceive not at the firſt, then may ſhe ſafely be permitted three or four times together, and it is obſerved that except her ears hang down ſlacking, and careleſſly, ſhe is not filled but rejecteth the ſeed, but if her ears fall downward, and ſo hang all the time that the Boar is upon her, then is it a moſt certain token that ſhe is filled, and hath conceived with young.

After four moneths (as we have ſaid) the Sow farroweth her Pigs, that is to ſay, in the fifth moneth, as it were in the ſeventeenth week: For ſo is this beaſt enabled by nature to bear twice in the year, and yet to ſuck her young ones two moneths together. And there is no cloven-footed beaſt that beareth many at a time except the Sow, except in her age, for then ſhe beginneth to loſe her *Apria* or purgation, and ſo many times miſcarryeth, and many times bear but one. Yet this is marvailous that as ſhe beareth many, ſo ſhe engendereth them perfect without blindneſs, lameſſe, or any ſuch other diſtreſſe, although as we have ſaid before, that in ſome places you ſhall ſee Swine whole hoofed like a Horſe, yet moſt commonly and naturally their feet are cloven, and therefore is the wonder accounted the greater of their manifold multiplication: and the reaſon thereof may ariſe from the multitude and great quantity of their food, for the humor cannot be ſo well avoided and diſperſed in ſo little a body as Swine have, as in Mares and Cowes, and therefore that humour turneth to multiply nature and natural kinde, and ſo it cometh to paſs, that by overmuch humour turned into a natural ſeed, it breedeth much young, and for little humor it bringeth forth a few Pigs, and thoſe alſo are not only perfect, but alſo ſhe is ſufficiently furniſhed with milk to nourish them, till they be able to feed themſelves. For as a fat ground or ſoil is to the plants that groweth on it, even ſo is a fruitful Sow to the Pigs, which ſhe hath brought forth.

Their ordinary number which they bring forth and can nourish is twelve, or ſixteen at the moſt, and very rare it is to ſee ſixteen brought up by one Sow. Howbeit it hath been ſeen that a Sow hath brought forth twenty, but far more often ſeven, eight or ten. There is a ſtory in *Fæſtus* of a Sow that brought forth thirty at a time, his words be theſe; The Sow of *Aeneas Lavinus* did bring forth thirty white Pigs at one time, wherefore the *Lavinians* were much troubled about the ſignification of ſuch a monſtrous farrow, at laſt they received answer that their City ſhould be thirty years in building, and being ſo they called it *Alba*, in remembrance of the thirty white Pigs. And *Pliny* affirmeth, that the images of thoſe Pigs and the Sow their dam, were to be ſeen in his days in publick places, and the body of the Dam or Sow preſerved in Salt by the Priests of *Alba*, to be ſhewed to all ſuch as deſired to be certified of the truth of that ſtory.

But to return to the number of young Pigs which are ordinary and without miracle bred in their dams belly, which I finde to be ſo many as the Sow hath dug for, ſo many ſhe may well nourish and give ſuck unto, and not more, and it ſeemeth a ſpecial work of God which hath made this tame beaſt ſo fruitful, for the better recompence to man for her meat and cuſtody. By the firſt farrow it may be gathered how fruitful ſhe will be, but the ſecond and third do moſt commonly exceed the firſt, and the laſt in old age is inferior in number to the firſt.

Juvenal hath a compariſon betwixt a white Sow and an Heifer, *Scropha ſecundior alba*, more fruitful then a white Sow; but belike the white Sowes do bring more then any other colour. Now the reaſon of the Poets ſpeech was, becauſe that there was an Heifer in the days of *Ptolmy* the younger, which at one time brought forth ſix Calves; whereupon came the proverb of *Regia Vacca*, for a fruitful Cow, for *Helenus* telleth this to *Aeneas*. Upon the Sow and thirty Pigs there is this answer of the Oracle to the *Lavinians* concerning *Alba*;

*Cum tibi ſollicito ſecreti ad fluminis undam,
Littoreis ingens inventa ſub ilicibus ſus,
Triginta capitum fetus enixa jacebit,
Alba ſolo recubans, albi circum ubera nati,
Is locus urbis erit, requies ea certa laborum.*

And *Juvenal* ſaith thus of it;

*Conſpicitur ſublimis aper, cui candida nomen,
Scropha dedit letis Phrygibus mirabile ſemen,
Et nunquam viſis triginta clara mamillis.*

Y y 2

When

When the young one cometh forth of the dams belly wounded or imperfect, by reason of any harm therein received, (it is called *Metacherum*) and many times Swine engender Monsters, which cometh to pass oftner in the little beasts then in the greatest, because of the multitude of cels appointed for the receipt of the seed, by reason whereof, sometimes there are two heads to one body, sometimes two bodies and one head, sometime three legs, sometime two before and none behinde; such were the Pigs without ears, which were farrowed at that time that *Dionysius* the Tyrant went to war against *Dion*, for all their parts was perfect but their ears, as it were to teach how inconsiderately against all good counsel, the Tyrant undertook that voyage; such are commonly found to be bred among them, also now and then of an unspeakable smallness like Dwarfs, which cannot live, having no mouth nor ears, called by the *Latines* *Aporcelli*. If a Sow great with Pig do eat abundantly of Acorns, it causeth her to cast her farrow and to suffer abortment; and if she grow fat, then is she less fruitful in Milk.

Now for the choice of a Pig to keep for store, it must be chosen from a lusty and strong dam bred in the Winter time, (as some say) for such as are bred in the heat of Summer are of less value, because they prove tender, small, and overmoist, and yet also if they be bred in the cold Winter they are small, by reason of extreme cold, and their dams forsake them through want of milk: and more over because they through hunger pinch and bite their dugs, so as they are very unprofitable to be nourished and preserved in the Winter time, rather they are fit to be killed and eaten young.

But this is to be observed for reconciliation of both opinions, namely, that in hot Countries such Hogs are preferred that be bred in the Winter, but in cold, such as are bred in *March* or *April*: within ten days after their farrowing they grow to have teeth, and the Sow ever offereth her foremost Dug to the Pig, that cometh first out of her belly, and the residue take their fortune as it falleth, one to one, and another to another, for it seemeth she regardeth the first by a natural instinct, not so much to prefer it, as that by the example thereof the residue may be invited to the like sucking by imitation, yet every one (as *Tzetzes* saith) keepeth him to his first choice. And if any of them be taken away from his Dug that is killed or sold, that dug presently dryeth, and the milk turneth backward, and so until all be gone, one excepted and then it is nourished with no more then was ordained at the beginning for it. If the old Sow want milk at any time, the supply must be made by giving the young ones fryed or parched corn, for raw corn or drink procureth looseness; and it is best for them to be suckled in the place where their Dam usually abideth.

For weaning of them it is not good to let more then five or six suck of her at one time, for although every one suck but his own Dug, yet by the multitude, the milk is dried up: After two months old they may safely be disjoined from their Dam and weaned, so as every year the Sow may breed eight months, and give suck four: it is best to let them feed asunder from their dams, till they have utterly forgotten to suck. And thus much for the procreation and nourishment of old and young Swine.

The office and first institution of Swine-herds.

This beast loveth society, and to live in herds or flocks together, and therefore the Ancients have invented Hog-keepers, whom they call Swine-herds, wherein there was wont to be considered these instructions, first he accustomed them to the sound of his horn, for by that he called them abroad out of their folds to their feedings, for they never suffered above twelve together at the trough or parcel of meat. It becometh a Swine-herd (saith *Collumella*) to be vigilant, diligent, industrious, and wise, for he must carry in his head the state of all that he nourisheth, both old and young, barren and fruitful; and consider the time of their farrowing, whether they be near at hand, or far off; that so none may be lost through the want of his observation; being farrowed, he must consider and look upon them to see which are fit for store, and which are not, what are their natures and probabilities; how much milk their dam is able to afford them, and how many she is to bring up, especially to regard that every Sow bring up no more then her own Pigs; for Swine being out of the sty do mingle one with another, and lose their own young ones, and when she lyeth down to give them suck, she lendeth her paps as well to strangers as to her own, and therefore herein must the care and wit of the herdsman appear, for if there be many, he must shut up every Sow with her young; and if that cannot be, then with a little Pitch or Tar let him give several marks to the several farrows, that so his memory may not be confounded. Another remedy to avoid the confusion of young Pigs one among another, is so to frame the threshold of the sty, that the Pigs may not be able to go in and out; for the Sow can more easily go over, and so she may be eased of their company, and they safely included at home, and so shall no stranger break into them; but every one in their own nest expect the return of their dam, which ought not to exceed the number of eight; for although the fecundity of Swine be great, yet it is better to kill off two or three, if their number be above eight, then to permit them to suck their dam; for this multitude of suckers do quickly draw away all nourishment from the dam: and when they are but eight at the most, regard must be had that the Sow be well fed with fod Barly, or such like, lest through a covetous pinching of the beast, leanness follow to her overthrow and destruction. Another point of a good Swineherd, is to sweep oftentimes the sty, for although such be the nature of the Beast, that it defileth all things, and will be wallowing in the mire, yet will she also be very desirous of a clean lodging, and delight much in the same; and when they be shut up, they must not be enclosed like other beasts altogether, for one of them will throng

throng and ly upon another, but there must be severall porches and hatches to sever and distinguish their lodgings, so as the great with Pig may lie in one place, and the other ready to be delivered by themselves, free from all incursion and violence. These divisions or separations ought to be some 3. or 4. foot high, so as they may not be able to leap over to one another, and not covered, to the intent that every Swineherd both man and boy may freely look over to them, and tell them if any chance to be missing, or else help a poor Pig when it is overlaid by his dam. *Columella. Palladius.*

Whensoever the Swineherd cleneth the sty, then let him cast in sand or some other drying thing into it, that all the moisture and wetness may be drunk up. The dam ought not to be permitted for the first ten days to go forth of the stable, except to drink, and afterward let her go abroad into some adjacent pasture, not far off, that so by her often return she may the better give suck to her young ones. When the little ones are a fortnight or three weeks old, they desire to follow their parent, wherefore they must be shut up from their mother, and feed alone in her absence, that they may better endure it afterward when they shall be weaned. They must be fed in the Summer time in the morning, before the heat be strong, and in the heat of the day led into some watry or shadowy place, that so they may be freed from extremity till the cool of the day return again, where in they must be suffered to feed. In the Winter time they are not to be led abroad till the frost and ice be thawed and dissolved. Ten Boars are sufficient for an hundred Sows, and although some keep five or six hundred in a herd, as we may read in Scripture of the great herds of Swine, into which our Saviour Christ permitted the Devils to enter, yet is it not safe or wholesome to keep above an hundred together, for a less flock or herd requireth less cost, charge, and attendance. There is a speech of *Tremellius Scrofa*, tending to the commendation of the custody or nourishing of Swine, for thus he writeth: *Agricultura ab initio sui studiosa, nec de pecore suillo mihi minor cura est, quam vobis magnis pecuariis. Cui enim earum non est communis? quis enim nostrum fundum colit quin sues habeat? & quis non audierit patres nostros dicere ignavum & sumptuosum esse, qui succidiam in carnario suspendit potius ab lanario quam ex domestico fundo?* That is to say, I have been long given to follow husbandry, and I have alway had as great care of my Swine, as other men of greater cattel. For what is there, whereunto Swine are not profitable? who tilleth land, and keepeth not hogs? and who hath not heard our fathers say, that he is an idle ill husband which hangs up all his provision in the shambles, and liveth rather upon the Butchers, then upon his own ground? Thus far *Tremellius*.

Another part of a good Swineherd is, to look to the gelding of his Swine, and splaying of the females, for if all be suffered to procreate and engender, it is more danger that Swine would in short time eat up men, rather then men Swine. The Latines call such a Hog gelded *Macalis*, and *Porcastrus*, *Pliny*, that is *Porcus castratus*, the Germans, *Ein barg*, or *Batz*, from whence seemeth to be derived our English Barrow-hog (for so we call a gelded male-hog) and a female Bais. The best time therefore to geld them is in the old Moon, or as we say in the wane of the Moon, but *Hesiod* prescribeth, that an Ox and a Boar should be gelded in the second quarter, and first day thereof, and *Aristotle* is of opinion that it skilleth not what age a Boar be when he is libbed; but it is clear by the best experienced among these beasts, there are two times of gelding them; one in the Spring, and the other in the Autumn, and this is to be done after a double manner; First, by making two incisions or wounds upon his stones, out of which holes the stones are to be pressed forth.

The second way is more perillous, yet more cleanly; for first of all at one wound or incision they take out one stone, then that being forth, with their knife they cut the small skin which parteth the stones in the cod, and so press forth the second stone at the first wound, afterward applying to it ordinary medicines, such as we will describe in the treatise of their diseases.

And the opinion of *Varro* is, that it is good to lib them at half a year old, or at a year old, or at three or four year old, for their better fattening; but best at a year, and not under half a year. When the stones are taken forth of an old Boar, suppose two, or three, or four year old, they are called by the Latines *Polimma*, because with them they polished and smoothed garments.

The female also is gelt or splayed, (although she often bore Pigs) whereof they open the side (neer her loins) and take away from her *Apris*, and receptacles of the Boars seed, which being sewed up again, in short time is enclosed in fat; this they do by hanging them up by their fore-legs, and first of all they which do it most commodiously, must cause them to fast two days before; and then having cut it, they sew up and close fast again the wound or incision, and this is done in the same place of the female, that the stones are to be taken out in the male (as *Aristotle* writeth) but rather it appeareth by good examination and proof, that it is to be cut out on the right, against the bone (called *Os sacrum*.) And the only cause of this Sow-gelding is, for their better growth and fattening; which in some Countries they use, being forced thereunto through their penury and want of food; but whereas is plenty of food, there they never know it: and the inventors hereof were the *Grecians*, whose custom was to cut out the whole matrix. And thus much for libbing, gelding, and splaying of Swine. *Festus. Adamantius. Pliny.*

This beast is a most unpure and unclean beast, and ravening; and therefore we use (not improperly) to call *obscæne* and filthy men or women, by the name of Swine or Sows. They which have foreheads, eye-lids, lips, mouth, or neck, like Swine, are accounted foolish, wicked, and wrathful: all their senses (their smelling excepted) are dull, because they have no Articles in their hearts, but have thick blood; and some say, that the acuteness and ripeness of the soul, standeth not in the thickness of the blood, but in the cover and skin of the body, and that those beasts which have

the thickest skins, are accounted the most blockish and farthest from reason, but those which have the thinnest and softest, are the quickest of understanding: an example whereof is apparent in the Oyster, Ox, and Ape. They have a marvellous understanding of the voice of their feeder, and as ardent desire to come at his call, through often custom of meat, whereupon lyeth this excellent story.

Ælianus.

When certain Pirates in the *Tyrrhene sea*, had entred a Haven, and went on land, they came to a Swines stie, and drew out thereof divers Swine, and so carried them on Shipboard, and loosing their Anckers and tacklings, do depart and sail away. The Swineherds seeing the Pirats commit this robbery, and not being able to deliver and rescue their Cattle, because they wanted both company and strength, suffered the Theeves in silence to ship and carry away their Cattle; at last, when they saw the Theeves rowing out of the Port, and lanching into the deep, then they lift up their voices, and with their accustomed cries or cals, called upon their Swine to come to their meat; as soon as the Swine heard the same, they presently gat to the right side of the Vessel or Bark, and there flocking together, the ship being unequally ballanced or loden, overturned all into the Sea, and so the Pirates were justly drowned in reward of the theft, and the stolne Swine swam safely back again to their Masters and Keepers.

The nature of this Beast is to delight in the most filthy and noisome places, for no other cause (as I think) but because of their dull senses. Their voice is called *Grunnitius* gruntling; *Sordida sua pascens ruriis gramina grunmit*; which is a terrible voice to one that is not accustomed thereunto, (for even the Elephants are afraid thereof) especially when one of them is hurt or hanged fast, or bitten, then all the residue as it were in compassion condoling his misery, run to him and cry with him, and this voice is very common in Swine at all hands to cry, except he be carryed with his head upwards towards heaven, and then (it is affirmed) he never cryeth, the reason whereof is given by *Aphrodisian*: because it is alway accustomed to look downward, and therefore when it is forced to look upwards it is suddenly appaled and afraid, held with admiration of the goodly space above him in the heavens, like one astonished, holdeth his peace (some say that then the artery of his voice is pressed) and so he cannot cry aloud. There is a fish in the river *Achelous* which grunteth like a hog, whereof *Juvenal* speaketh, saying; *Et quam remigibus grunuisse Elpenora porcis*. And this voice of Swine is by *Cæcilius* attributed to drunken men. The milk of Swine is very thick, and therefore cannot make whay like a Sheeps, howbeit it suddenly coagulateth and congealeth together.

Among divers males or Boars when one of them is conqueror, the residue give obedience and yeeld unto him, and the chief time of their fight or discord is in their lust, or other occasions of food, or strangeness, at which time it is not safe for any man to come neer them, for fear of danger from both parties, and especially those which wear white garments. And *Strabo* reporteth in general of all the *Belgian* Swine, that they were so fierce, strong, and wrathful, that it was as much danger to come near them as to angry Wolves. Nature hath made a great league betwixt Swine and Crocodiles, for there is no beast that may so freely feed by the banks sides of *Nilus*, as the Swine may, without all hurt by the Crocodile. Other Serpents, especially the smaller Serpents, are oftentimes devoured by Swine. *Aristotle* saith, that when many of them are together they fear not the Wolf, and yet they never devour any Wolf, but only with their scaring and gruntling noise fear them away. When a Wolf getteth a Swine, he devoureth him, and before he can eat him draggeth him by the ears to some water to cool his teeth in his flesh (which above measure burn in devouring his flesh.) It hath been seen that a Lion was afraid of a Sow, for at the setting up of his bristles he ran away.

It is reported that Swine will follow a man all the day long which hath eaten the brain of a Crow in his pottage: and *Nigidius* affirmeth, that Dogs will run away from him that hath pulled off a tick from a Swines back. The people of *Mossynacum* did engender Man with Woman publicly like Swine; and *Stobæus* writing against Women saith, that some of them are derived from one beast, and some from another, and namely a woman descended of a Sow sitteth at home, and doth neither good nor harm: but *Simonides* writeth otherwise, and namely that a Woman born of a Sow sitteth at home suffering all things to be impure, unclean, and out of order, without decking, dressing or ornament, and so she groweth fat in her unwashed garments. And there are many fictions of the transforming into Swine. *Homer* faigneth that the companions of *Ulysses* were all by *Circe* turned into Swine, which is interpreted in this manner, *Circe* to signifie unreasonable pleasure, *Ulysses* to signifie the soul, and his companions the inferior affections thereof, and so were the companions of *Ulysses* turned into Swine by *Circe*. When unreasonable pleasures do overcome our affections and make us like Swine in following our appetites: and therefore it was the counsell of *Socrates*, that no man should at banquet eat more then sufficient, and those which could not abstain from them, should forbear their company that perswaded them to eat when they were not hungry, and to drink when they were not thirsty, and therefore he supposed that it was said in jest that *Circe* turned men into Swine. When as *Ulysses* by his own abstinence and *Mercury* his counsell, was delivered and saved from that most savage transformation, which caused *Horace* thus to write;

Xenophon.

*Ulysses si bibisset pocula Circes—Cum sociis
Vixisset canis immundus vel amica luta suis.*

And

And from this came the original proverb of *Porcellus Acarnanius* for a tender and delicate person, used so to fulness, that all penury is death unto him. Sweet favours as we have shewed already, are very hurtful to Swine, especially the sweet oyl of Marjoram. Whereupon came the proverb *Nil cum amaracino sui*; and *Lucretius* speaketh hereof in this sort;

*Deniq; amaracinum fugitat sus, & timet omne
Unguentum: nam setigeris subus acre venenum est.*

And for this cause *Tullius Cicero* saith, *Illi alabastrus putet unguenti plena*; that is, a box of Alabastr full of ointments is displeasing to this Beast, for as the *Scarabee* or *Horse* flie forsaketh sweet places to light and sit upon *Horse* dung, even so doth Swine. There be many of the antients that have delivered merrily *Anima suis pro sale*, that the Swines soul is in their body but in stead of salt to keep the flesh from stinking, even as for no other purpose many among men seem to live and retain soul in body. They are very clamorous, and therefore are used for talking and prating fellows, whereupon the *Greek* Poet *Lucilius* translated by *Erasmus* alludeth, when he saith in this manner, under *Alia Meneclis, alia porcellus loquitur*;

*Sucula, bos, & capra mihi periire Meneclis,
Ac merces horum nomine persa tibi est.
Nec mihi cum Oshryade quicquam estive fuitve negoti,
Nec fures ullos huc cito Thermopylis.*

*Sed contra Eutychidem nobis lis: proinde quid hic mi
Aut Xerxes facit, aut quid Lacedamonii?
Ob pactum & de meloquere, aut clamavero clare,
Multo aliud dicit sus, aliud Meneclis.*

And to conclude, in *Latin* they say *Sus Minervam*, when an unlearned dunce goeth about to teach his better or a more learned man, then doth the Hog teach *Pallas*, or as we say in *English*, the foul Sow teach the fair Lady to spin.

There are in Swine many presages and foretokens of foul weather, as Swineherds have observed: as first if they lie long wallowing in the mire, or if they feed more greedily then they were accustomed, or gather together in their mouths, hay, stubble, or straw, as *Aratus* writeth; or if they leap and dance, or frisk in any unwonted sort: and for their copulation, in years that will prove moist, they will ever be boring, but in dryer years they are lesse libidinous.

The greatest harm that cometh by Swine is in rooting and turning up of the earth, and this they do in Corn fields, for which we have shewed that the *Cyprians* made a law to beat out the teeth of such Swine: for this cause *Homer* writeth that *Irus* threatneth *Ulysses*, because his companions eat up all his corn, to knock out their teeth: yet sometimes the husbandmen admit them of purpose, both into their land before it be plowed, and also into their vineyards. It is said that the *Egyptians* forbear to sacrifice them, because they tread in their Corn in their fields after it is swelled out of the earth, so as the Birds cannot gather it up again, as we have shewed before. The *Jews* and the *Egyptians* accounted this Beast most unclean. The *Jews*, not as the vain *Gentiles* imagined, because they worshipped it, for that it taught men to plow the earth, but for the Law of God. And the *Egyptians* hold it a profane thing, and therefore they had an antient law, that no Swineherd should come into their Temple, or that any Man should give him his Daughter in Marriage. It is very certain that they were wont to be used in sacrifices. The said *Egyptians* never sacrificed them to the Moon and to *Bacchus*, and at other times it was unlawful, either to offer them, or to eat them: but it seemeth by many Authors, that their first sacrifices were of Swine, for we read of antient customs in *Hetruria*, that at their marriage feasts they offered and sacrificed a Sow to *Venus*, and at other times, especially in Harvest, they did so to *Ceres*. The *Latins* do hold a Swine very grateful and sacred to *Jupiter*, because as they believed that a Sow did first of all lend her paps to him, and therefore all of them worship a Sow, and abstain from her flesh. Likewise in *Mysia* and *Phoenicia*, there were Temples of *Jupiter*, wherein it was forbidden to sacrifice or kill Swine by a publick Law, like as it was amongst the *Jews*. When the Kings of *Sparta* were first of all chosen into that royal place, they were permitted to execute the Priests office, and to the intent that they might never want sacrifices, there was a priviledge granted them to take a Pig of every Sow: and when they sacrificed to *Jupiter* a Swine, it must be after or at a triumph: they were also sacrificed to *Neptune*, because they were impetuous and ranging Beasts; and a Boar was holy to *Mars*, according to this saying of *Pomponius* in *Attellana*, *Mars tibi facturum, si unquam rediero, bidente verre*. And there was a custom among the *Athenians*, when a Man had slain an hundred enemies, he was permitted to offer up to *Mars*, some part of a man at *Lemnos*, and afterward they grew out of liking of this vain custom, and in stead thereof sacrificed a Barrow or gelded Hog, and when they houlded their army, they did it with Hogs, Sheep or Buls, and nothing else, and they compassed it about three times with pomp and stately procession, and at last slew and offered them to *Mars*. They were wont to sacrifice a Hog for a Man that had recovered his wits after he had been mad, and also they sacrificed Swine to *Silvanus*, according to these Verses;

*Cedere Silvano porcum quadrante lavari:
And again;
Tellurem porco Silvanum lacte piabant.*

Their

Their Pagan God *Terminus*, had an Ewe and a young Sow offered to him (as *Ovid* writeth) although by the laws of *Numa*, all sacrifices of living things were forbidden unto him. To *Ceres* and *Bacchus*, we have shewed already how they were offered, and the reason of their sacrificing was, because they were hurtful to all green Corn and Vines.

*Prima Ceres avidi gavisæ est sanguine porci,
Ultæ suas merita cede nocentis opes,
Nam sata vere novo teneris lætæntia succis,
Erit ætærigæ comperit ore suis.*

And again in another place he writeth thus ;

*Prima putatur hostia Sus mervisse mori,
— quia semina pando
Eve ruit rostro, spemq; interceperit anni.*

The time of their sacrificing to *Ceres* was in *April*, wherein the Priests with Lamps and Torches, and apparelled in white garments, did first of all kill a female Swine, and then offer her; and sometime this was a Sow with farrow, because thereby in a mystery they prayed for the fruitfulness and fecundity of the earth: and for these and such like causes we read of titles put upon them, as *Porca præcidanea*, for the Sow that was slain before the reaping, and *Porca præsa*, for the Sow that was offered at a Funeral for the safety of all the family, wherein the dead man lived. They also sacrificed a barren Sow to *Proserpina*, because she never bore children, and to *Juno* in the Calends of every moneth: And thus much for their sacrificing.

Now we are to come to the use of Swine and their several parts; first of all it is certain that there is no Beast lesse profitable being alive then a Hog, and yet at his latter end he payeth his Master for his keeping. *Cicero* said well, *Sus quid habet præter escam, cui quidem ne putresceret, animam ipsam pro sale datam esse dicit Chrysippus*. A Hog hath nothing in him besides his meat, and that therefore the soul thereof was given to it in stead of salt to keep it from stinking: for indeed in Lions, Dogs, Bears, Horses, and Elephants, all their virtues lyeth in their minds, and their flesh is unprofitable and good for nothing, but the Swine hath no gifts at all in the minde, but in the body, the life thereof keeping the flesh and body from putrefaction. And there is no beast that God hath ordained for domestical provision of food and meat to man, except Hares and Conies, that is so fruitfull as Swine are. God (as we have touched already) *Levit. 11. Deut. 14.* forbade his people of *Israel* to eat hereof, because it was an unclean Beast not chewing the cud; and furthermore the observation of *Procopius* is memorable, that whereas the *Egyptians* did worship with divine worship, both Oxen, Kine, and Sheep, and would not eat of their flesh or kill them in sacrifice, yet did eat, and kill, and sacrifice Swine.

The *Jews* were permitted and commanded to eat Oxen and Sheep, and abstain from the flesh of Swine; thus manifesting how different his ways and thoughts are from the ways and thoughts of men. The Lord doth not this for policy, but to try the obedience of his people, placeth therein one part of his worship, and therefore by his Prophets, *Esa. 65. and 66.* calleth the eating of Swines flesh abomination, and threatneth thereunto a certain unavoidable judgement and damnation. The woman and her seven sons which were apprehended by King *Antiochus*, and by him tempted to eat Swines flesh which they refused to do (being against the law of their God) are remembred as most worthy Martyrs of his Church, that endured, cutting off their hands and feet, pulling out their tongue, and seething in a boyling Caldron with other exquisite torments incident to such death, as is recorded by *Jason 2. Macab. 6.* We read that *Helio-gabalus* did abstain from Swines flesh, because he was a *Phenician*, and they forbore to eat it. The women of *Bracea* in *Africk*, do never tast of Cowes flesh or Swines flesh.

The *Arabian Scenites* never eat hereof, and Swine cannot live in their Countries. (*Ctesias* and *Ælianus* affirme) that in *India* there are no Swine, either tame or wilde, and that the *Indians* do as much forbear to eat of Swines flesh, in detestation thereof, as they do of Mans flesh.

Now concerning the flesh of Swine, many opinions are held about the goodness and evill thereof, yet *Hippocrates* writeth, that *Porcine carnes præve sunt quum fuerint crudiores & ambusæ, magis autem choleram generant, & turbationem faciunt, Suiile carnes optime sunt omnium carniū*; that is, The flesh of a Boar being raw or roasted, is worst of all other, because it engendereth Choler and wilde windy matter in the stomach; but the flesh of a Sow is the best of all flesh, with this proviso, that it neither exceed in fatness, leanness, or age.

There is a merry and witty answer of a memorable Noble man to an old Gentlewoman (if not a Lady) who dispraised Bacon at the Noble mans table, and said it was a churlish, unpleasant meat. The Lord understanding a privy Emphasis in that speech against himself, (for his name was written with those Letters and syllables) answered her: you say truth, if the Bacon be a piece of an old Sow (as peradventure she seemed to be at that time.)

The best opinion about the concoctive quality of this flesh is, that then it is best when it is in middle age, neither a Pig, nor an old Hog, for a Pig is over moist, like the Dam which is the moistest of all other earthly Beasts; and therefore cannot but engender much flegme: and for this cause

cause the fattest are reprov'd for a good diet, for that it cannot digest well through over much humidity.

And the old Swine are most hard of Concoction, (yea though they be scorched or findged at the fire) because thereby is increased in their flesh much acrimony and sharpness, which in the stomach of men turneth into Choler: for they bite all the vessels reaching to the stomach, making a derivation of all those ill humors into the belly and other parts.

I do not like their opinion, which think that it is better cold then hot, for fear of inflammation; this rule is good in the flesh of Goats (which are exceeding hot) but in Swine, where is no predominancy but of moisture, it is better to eat them hot then cold, even as hot Milk is more wholesome then cold. Hippocrates doth prescribe the eating of Swines flesh in the sickness of the Spleen; and Celsus Aurelianus forbiddeth the same in the Palsie or Falling sickness.

Galen is of opinion that *Caro porcina potentissime nutrit*, nourisheth most strongly, and potently; whereof he giveth an instance for a reason taken from Champions, Combatants, or Wrestlers; if the day before they wrestle or fight, they feed on an equall quantity of any other flesh, they feel themselves weak and feeble in comparison of that is gathered from Swines flesh: and this (he saith) may be tryed in Laborers, Mioners, Diggers, and Husbandmen; which retain their strength as well (if not better) by eating of Swines flesh or Bacon as any other meat: For as Beef in thickness and solidity of substance to the eyes appearance, excelleth Pork or Bacon, so Pork and Bacon excelleth and is preferred before Beef, for a clammy nourishing humor. And this comparison betwixt Pork and Beef, Galen amplyfieth farther in these words, Of Swines flesh, those are best for men in their middle and ripe age, which are of Hogs of an answerable age, and to other which are but growing to a ripeness and perfection, Pigs, Sheates, and young growing Swine, are most nourishable. And on the contrary, young growing Oxen are most nourishable to men of perfect years and strength, because an Ox is of a far more dry temperament then a Hog.

A Goat is lesse dry then an Ox, and yet compared to a Man or a Swine, it excelleth both of them; for there is a great resemblance or similitude betwixt a Mans flesh and Swines flesh, which some have proved in tast, for they have eaten of both at one Table, and could finde no difference in one from the other: for some evill Inn-keepers and Hoasts have so deceived men, which continued a great while, not descryed or punished, untill at last the finger of a man was mixed therewith, and being found, the Authors received their reward. Swines flesh also is lesse excremental then Pigs flesh, and therefore more nutritible, for the moisture that the flesh is, the sooner it is dispersed, and the vertue of it avoided, and old Swine notwithstanding their primitive and natural moisture, yet grow very dry, and their flesh is worst of all, because in nature humidity helpeth the concoction thereof.

All Swines flesh being concocted engendereth many good humors, yet withal they contain a kind of glutinous humor, which stoppeth the liver and reins; especially in those which by nature are apt to this infirmity. And although some are of opinion, that the wilde Boar is more nourishable then the tame Swine, because of his laborious course of life, and getting his prey; yet it appeareth that the tame Swine by their resty life, and easie gathering of their meat, are made more fit for nourishment of man, for they are more moist: and Swines flesh without convenient moisture (which is many times wanting in wilde Boars) is poyson to the stomach, and yet for a man that hath propounded to himself a thin extenuating diet, I would wish him to forbear both the one and the other, except he use exercise, and then he may eat the ears, or the cheeks, or the feet, or the haster, if they be well sod or dressed: provided they be not fresh, but sauced or powdred; And it is no marvel that Swines flesh should so well agree with ours, for it is apparent that they live in dirt, and love to muddle in the same.

And if any man ask, how it cometh to passe, that Swine which both feed and live so filthily, should be so nourishable to the nature of man; some make answer, that by reason of their good constitution of body, they turn ill nutriment to a good flesh: for as men which be of a sound, perfect, and healthy disposition or temperature, are not hurt by a little evill meat, which is hard of digestion; even so is it with well constituted and tempered Swine, by continual feeding upon evill things, they grow not only to no harm, but also to a good estate, because nature in process of time draweth good out of evill: But if men which have moist stomachs, do eat of Swines flesh, then do they suffer thereby great harm, for as water powred on wet ground, increaseth the dirt; so moistness put upon a moist stomach, increaseth more feebleness: but if a man of a dry and moist stomach do eat hereof, it is like rain falling into a dry ground, which begetteth and engendereth many wholesome fruits and hearbs. And if a Swine be fatted with dried figs or nuts, it is much more wholesome. With Wine all Swines flesh is most nourishable, and therefore the University of Salernum, prescribed that in their verses to the King of England, and also they commended the loines and guts:

Ilia porcorum bona sunt, mala sunt reliquorum.

And Fiera describeth the eating of Hogs-flesh in this manner;

*Sus tibi cænofo sit cæna domesticus ore,
Grata ferat nobis mensa hyemalis aprum.*

*Ille licet currat de vertice montis, aquose
Carnis erit, pluri sed tamen apta cibo est.
Hinc feritas silvæq; domant, & inania saxa,
Post melius posita rusticitate sapit.*

And whereas *Hippocrates* commended Swines flesh for Champions and Combatants; it is certain, that *Bilis* the Champion through eating of Swines flesh, fell to such a height of choler, that he cast it upwards and downwards.

When the womb of a Woman is ulcerated, let her abstain from all Swines flesh, especially the eldest and the youngest. It is not good for any man to taste or eat this flesh in the Summer time, or any hot weather, for then only it is allowed when extreme frosts have tempered it for mans stomach, and the stomach for it: the flesh of wilde Swine is most of all hurtful to them that live at ease, without exercise, because that they are immoderately given to sleep. Some are of opinion that a sow which is killed immediately after the Boar hath covered her, is not so wholesome as other: *Helioabalus* observed this custom, to eat one day nothing but Pheasant Hens, another day nothing but Pullen, and the third day nothing but Pork.

Erasmus.

Macrobius.

There was in antient time a dish of meat called *Trojanum*, the *Trojan Hog*, in imitation of the *Trojan Horse*, for as that was stuffed within with many armed men, so was this with many severall meats, and whole Beasts, as Lambs, Birds, Capons, and such like, to serve the appetites of the most strange belly-gods, and Architects of gluttony: and therefore *Cincius* in his oration, wherein he perswaded the Senators and people to the law *Fannia*, reproveth this immoderate riot in banquets, *In apponendo mensis porcum Trojanum*: and indeed it wanted not effect, for they forbad both *Porcum Trojanum*, and *Callum Aprugnum*.

There was another Raven-monster-dish (called *Pinax*) wherein were included many Beasts, Fowles, Egges, and other things which were distributed whole to the guests: and no marvell, for this Beast was as great as a Hog, and yet gilded over with silver. And *Hippolocus*, in his Epistle to *Lyncæus*, speaking of the banquet of *Caramis*, saith thus, *Allatus est nobis etiam porcus dimidia parte diligenter assus sine tostus, & dimidia altera parte tanquam ex aqua molliter elixus, mira etiam coqui industria ita paratus, ut qua parte jugulatus esset, & quomodo variis deliciis refertus ejus videri non appareat*. There was brought to us a Hog, whereof the one half was well roasted, and the other half or side well sod, and this was so industriously prepared by the Cook, that it did not appear where the Hog was slain or received his deadly wound, nor yet how his belly came to be stuffed with divers and sundry excellent and delicate things. The Romans had a fashion to divide and distribute a Hog, which appeareth in these Verses of *Martial*;

Vobiscus.

*Iste tibi faciet bona Saturnalia porcus,
Inter spumantes ilice pastus apros.*

And of the eating of a sucking Pig, *Martial* also writeth in this manner;

*Lacte mero pastum pigra mihi matris alumnus
Ponat, & Ætolo de sue dives edat.*

I might add many other things concerning the eating and dressing of Swines flesh, both young and old, but I will passe it over, leaving that learning to every Cook, and Kitchen-bôy.

Concerning Bacon, that which is cald by the *Latins*, *Perna*, I might add many things, neither improper, nor impertinent, and I cannot tell whether it should be a fault to omit it in this place. The word *Perna* after *Varro*, seemeth to be derived from *Pede*, but in my opinion, it is more consonant to reason, that it is derived from the Greek word *Pterna*, which is the ribs and hips of the Hog hanged up and salted, called by *Martial* *Petaso*, and by *Plautus* *Ophthalmia*, *Horæum*, *Scombrum* and *Laridum*.

Palladius.

Quanta pecus pestis veniet, quanta labes larido.

The time of the making of Bacon, is in the Winter season, and all the cold weather, and of this *Martial* writeth very much in one place;

*Musteus est, prope, charos ne differ amicos.
Nam mihi cum vetulo sit petasone nihil.*

And again,

*Et pulpam dubio de petasone voras.
—Cretana mihi fiet, vel massa licebit
De menapis lauti, de petasone vorant.*

Strobo in his time commended the Bacon of the *Gaules*, or of *France*, affirming that it was not inferiour to the *Asian* or *Lycian*, an old City of *Spain* (called *Pompelon*) neer *Aquitania*, was also famous for

for Bacon. They first of all killed their hogs, and then burned or scalded off all their hair, and after a little season did slit them assunder in the middle, laying them upon salt in some tub or deep trough, and there covering them all over with salt, with the skin uppermost, and so heap fitch upon fitch, till all be salted, and then againe they often turned the same, that every part and side, might receive his season, that is, after five daies, laying them undermost which were uppermost, and those uppermost which were undermost. Then after twelve days salting, they took all out of the tub or trough, rubbing off from it all the salt, and so hanged it up two days in the winde, and the third day they all to anoint it with oyl, and did hang it up two days more in the smoak; and afterward take it down again, and hang it or lay it up in the larder, where all the meat is preserved, still looking warily unto it, to preserve it from Mice and Wormes: And thus much shall suffice at this time for the flesh of Hogs, both Pork and Bacon.

The milk of a Sow is fat and thick, very apt to congeal, and needeth not any runnet to turn it; it breedeth little whay, and therefore it is not fit for the stomach, except to procure vomiting, and because it hath been often proved, that they which drink or eat Sow milk fall into scurfs and Leprosies, (which diseases the *Asians* hate above all other) therefore the *Egyptians* added this to all the residue of their reasons, to condemn a Sow for an unclean and filthy beast. And this was peculiarly the saying of *Manethon*.

With the skins of Swine which the *Grecians* did call *Phorine*, they made shoo-leather, but now a days by reason of the tenderness and looseness thereof, they use it not, but leave it to the Sadlers, and to them that cover Books, for which cause it is much better then either Sheep or Goats skins, for it hath a deeper grain, and doth not so easily fall off. Out of the parings of their skins they make a kinde of glew, which is preferred before *Taurocolum*, and which for similitude they call *Cherocolum*. The fat of Swine is very pretious to liquor shooes and boots therewithal. The Amber that is in common use groweth rough, rude, impolished, and without clearness, but after that it is sod in the grease of a Sow that giveth suck, it getteth that nitour and shining beauty, which we finde to be in it.

Some mix the blood of Hogs with those medicines that they cast into Waters to take fishes, and the Hunters in some Countries when they would take Wolves and Foxes, do make a train with a Hogs liver sod, cut in pieces and anointed over with hony, and so anointing their shooes with Swines grease, draw after them a dead Cat, which will cause the beast to follow after very speedily. The hairs of Swine are used by Cobblers and Shoemakers, and also with them every Boy knoweth how to make their Nose bleed. The dung is very sharp, and yet it is justly condemned by *Columella* for no use, no not to fatten the earth, and Vines also are burned therewithal, except they be diligently watered, or rest five years without stirring.

In *Plinies* time they studied to enlarge and make their Lettice grow broad, and not close together, which they did by slitting a little the stalk, and thrusting gently into it some Hogs dung. But for trees there is more especial use of it, for it is used to ripen fruit and make the trees more plentiful. The Pomegranats and Almonds are sweetned hereby, and the Nuts easily caused to fall out of the shell. Likewise, if Fennel be unfavory, by laying to the root thereof either Hogs dung, or Pigeons dung, it may be cured; and when any Apple tree is affected and razed with Worms, by taking of Swines dung, mixed and made soft like mortar with the urine of a man layed unto the root, it is recovered, and the Wormes driven away: and if there be any rents or stripes visible upon trees, so as they are endangered to be lost thereby, they are cured by applying unto the stripes and wounds this dung of Swine.

When the Apple trees are loose, pour upon their roots the stale of Swine, and it shall establish and settle them, and wheresoever there are Swine kept, there it is not good to keep or lodge Horses, for their smell, breath, and voice, is hateful to all magnanimous and perfect spirited Horses. And thus much in this place concerning the use of the several parts of Swine, whereunto I may add our *English* experiments, that if Swine be suffered to come into Orchards, and dig up and about the roots of the Apple trees, keeping the ground bare under them, and open with their noses, the benefit that will arise thereby to your increase of fruit will be very inestimable. And here to save my self of a labor about our *English* Hogs, I will describe their usage out of Mr. *Tussers* husbandry, in his own words, as followeth: and first of all for their breeding in the Spring of the year he writeth in general;

Let Lent well kept offend not thee,

For March and April breeders be.

And of September he writeth thus:

To gather some mast it shall stand thee upon,
With servant and children yet mast be all gone.
Some left among bushes shall pleasure thy Swine,
For fear of a mischief keep Acornes fro kine.
For rooting of pasture ring Hogye have need,
Which being well ringled, the better doth feed.
Though young with their elders will lightly keep best,
Yet spare not to ringle both great and the rest.

Take seldome thy swine, while shackle time doth last,
For divers misfortunes that happen too fast,
Or if you do fancy, whole eare of the Hog,
Give ear to ill neighbor, and ear to his Dog.
Keep hog I advise thee from meadow and Corne,
For out aloud crying, that ere he was borne.
Such lawlesse so haunting both often and long,
If dog set him chaunting he doth thee no wrong.

And

And again in *Octobers* husbandry he writeth;

Though plenty of *Acornes*, the *Porkelings* to fat
Not taken in season may perish by that,
If rattling or swelling get once in the throat,
Thou lovest thy porkling a *Crown* to a *Groat*.

What ever thing fat is, again if it fall,
Thou ventrest the thing and the fatnesse withall.
The fatter, the better, to sell or to kill,
But not to continue, make proof if you will.

In *November* he writeth again;

Let Hog once fat, lose none of that;
When mast is gone, Hog falleth anon,
Still fat up some, till *Shrovetide* come,
Now *Porke* and *sowce* bears tacke in a house.

Thus far of our *English* husbandry about *Swine*. Now followeth their diseases in particular.

Of the diseases of *Swine*.

Pliny.
Ælianus.

Hemlock is the bane of *Panthers*, *Swine*, *Wolves*, and all other beasts that live upon devouring of flesh, for the *Hunters* mix it with flesh, and so spread or cast the flesh so poysoned abroad in bits or morsels to be devoured by them. The root of the white *Chamelion* mixed with fryed *Barly* flour. Water and oyl is also poyson to *Swine*. The black *Ellebor* worketh the same effect upon *Horses*, *Oxen*, and *Swine*, and therefore when the beasts do eat the white, they forbear the black with all wearisomeness. Likewise *Henbane* worketh many painful convulsions in their bellies; therefore when they perceive that they have eaten thereof, they run to the waters and gather *Snails* or *Sea-crabs*, by vertue whereof they escape death, and are again restored to their health. The hearb *Goosefoot* is venomous to *Swine*, and also to *Bees*, and therefore they will never light upon it, or touch it. The black *Night-shade* is present destruction unto them, and they abstain from *Harts* tongue, and the great bur, by some certain instinct of nature. If they be bitten by any *Serpents*, *Sea-crabs*, or *Snails*, are the most present remedy that nature hath taught them. The *Swine* of *Scythia* by the relation of *Pliny* and *Aristotle*, are not hurt with any poyson except *Scorpions*, and therefore so soon as ever they are stung by a *Scorpion*, they die if they drink. And thus much for the poyson of *Swine*. Against the cold (of which these beasts are most impatient:) the best remedy is to make them warm sties, for if it be once taken, it will cleave faster to them, then any good thing, and the nature of this beast is, never to eat if once he feel himself sick; and therefore the diligent Master or keeper of *Swine*, must vigilantly regard the beginnings of their diseases, which cannot be more evidently demonstrated, then by forbearing of their meat.

Of the Measels.

The Measels are called in *Greek*, *Chalaza*; in *Latin*, *Grandines*; for that they are like hailstones spread in the flesh, and especially in the leaner part of a *Hog*, and this disease, as *Aristotle* writeth, is proper to this Beast, for no other in the world is troubled therewith: for this cause the *Grecians* call a Measly *Hog*, *Chaluros*, and it maketh their flesh very loose and soft. The *Germanes* call this disease *Finnen*, and *Pfinnen*; the *Italians*, *Gremme*; the *French*, *Sursame*, because the spots appear at the root of the tongue like white seeds, and therefore it is usuall in the buying of *Hogs* in all Nations to pull out their tongue and look for the Measels, for if there appear but one upon his tongue, it is certain that all the whole body is infected. And yet the Butchers do all affirm that the cleanest hog of all, hath three of these, but they never hurt the *swine* or his flesh, and the *Swine* may be full of them, and yet none appear upon his tongue, but then his voice will be altered and not be was wont.

These abound most of all in such *Hogs* as have fleshy legs and shoulders very moist, and if they be not over plentiful, they make the flesh the sweeter; but if they abound, it tasteth like stock-fish or meat over-watered. If there be no appearance of these upon their tongue, then the chap-man or buyer pulleth off a bristle from the back, and if bloud follow, it is certain that the beast is infected, and also such cannot well stand upon their hinder legs. Their tail is very round. For remedy hereof divers days before their killing, they put into their wash or swill some ashes, especially of *Hasel* trees. But in *France* and *Germany* it is not lawful to sell such a *Hog*, and therefore the poor people do only eat them. Howbeit they cannot but engender evill humors and naughty bloud in the body.

The roots of the bramble called *Ramme*, beaten to powder and cast into the holes, where *Swine* use to bath themselves, do keep them clear from many of these diseases, and for this cause also in ancient time they gave them *Horse-flesh* sodden, and *Toads* sodden in water, to drink the broath of them. The *Bur* pulled out of the earth without *Iron*, is good also for them, if it be stamped and put into milk, and so given them in their wash. They give their *Hogs* here in *England* red-lead, red-oker,

Oker, and in some places, red loam or earth. And *Pliny* saith, that he or she which gathereth the afore said Burre, must say this charm :

*Hæc est herba Argemon
Quam Minerva reperit,
Suis his remedium
Qui de illa gustaverint.*

At this day there is great praise of Maiden-hair for the recovery of Swine, also holy Thistle, and the root of *Gunban* and Harts-tongue.

of leanness or pining.

Sometime the whole herd of Swine falleth into leanness, and so forsake their meat, yea although they be brought forth into the fields to feed, yet as if they were drunk or weary, they lie down and sleep all the day long. For cure whereof, they must be closely shut up into a warm place, and made to fast one whole day from meat and water, and then give them the roots of wilde Cucumber beaten to powder, and mixed with water, let them drink it, and afterward give them Beans pulse, or any dry meat to eat, and lastly warm water to procure vomit, as in men, whereby their stomachs are emptied of all things both good and bad: And this remedy is prescribed against all incertain diseases, the cause whereof cannot be discerned; and some in such cases do cut off the tops of the tails, or their ears, for there is no other use of letting these beasts blood but in their veins.

Of the Pestilence.

These beasts are also subject to the Pestilence, by reason of earth-quakes and sudden infections in the air, and in such affection the beast hath sometime certain bunches or swellings about the neck, then let them be separated, and give them to drink in water the roots of *Dassadill* :

*Quatit egros tussis anhelæ suæ
Ac faucibus angit obesis tempore pestis.*

Some give them Night-shade of the wood, which hath great stalks like cherry twigs, the leaves to be eaten by them against all their hot diseases, and also burned snails, or Pepper-wort of the Garden, or *Lactuca fœtida* cut in pieces, sodden in water, and put into their meat.

Of the Ague.

IN ancient time (*Varro* saith) that when a man bought a Hog, he covenanted with the seller, that it was free from sicknesse, from danger, that he might buy it lawfully, that it had no maungie or Ague.

The signs of an Ague in this beast are these.

WHen they stop suddenly, standing still, and turning their heads about, fall down as it were by a Megrim, then you must diligently mark their heads which way they turn them, that you may let them blood on the contrary ear, and likewise under their tail, some two fingers from their buttocks, where you shall finde a large vein fitted for that purpose, which first of all we must beat with a rod or piece of wood, that by the often striking it may be made to swell, and afterwards open the said vein with a knife: the blood being taken away, their tail must be bound up with Osier or Elm twigs, and then the Swine must be kept in the house a day or two, being fed with Barly meal, and receiving warm water to drink as much as they will.

Of the Cramp.

WHen Swine fall from a great heat into a sudden cold, which hapneth when in their travel they suddenly lie down through wearinesse, they fall to have the Cramp, by a painfull convulsion of their members, and the best remedy thereof, is for to drive them up and down, till they wax warm again, and as hot as they were before, and then let them be kept warm still, and cool at great leisure, as a horse doth by walking, otherwise they perish unrecoverably, like Calves which never live after they once have the Cramp.

Of Lice.

They are many times so infested and annoyed with Lice, that their skin is eaten and gnawn through thereby; for remedy whereof, some annoynt them with a confection made of Cream, Butter, and a great deal of Salt: Others again annoynt them, after they have washed them all over with the Lees of wine, and in England commonly the Countrey people use Staves-aker, red Oaker, and grease.

Of the Lethargy.

By reason that they are much given to sleep in the Summer time, they fall into Lethargies, and die of the same: the remedy whereof is, to keep them from sleep, and to wake them whenever you finde them asleep.

Of the head-aches.

This disease is called by the Grecians, *Scotomia*, and *Kraura*, and by *Albertus*, *Frattia*. Here with all Swine are many times infected, and their ears fall down, their eyes are also dejected, by reason of many cold humours gathered together in their heads, whereof they die in multitudes, as they do of the pestilence, and this sicknesse is fatall unto them, if they be not holpen within three or four dayes. The remedy whereof (if there be any at all) is to hold Wine to their nostrils, first making them to smell thereof, and then rubbing it hard with it, and some give them also the roots of white Thistles, cut small and beaten into their meat, but if it fall out that in this pain they lose one of their eyes, it is a sign that the beast will die by and by after, as *Pliny* and *Aristotle* write.

Of the Gargarisme.

This disease is called by the Latines, *Rauedo*, and by the Grecians, *Branchos*, which is a swelling about their chaps, joyned with Feaver and Head-ache, spreading it self all over the throat, like as the Squinancy doth in a man, and many times it begetteth that also in the Swine, which may be known by the often moving of their feet, and then they die within three dayes, for the beast cannot eat being so affected, and the disease creepeth by little and little to the Liver, which when it hath touched it, the beast dieth, because it putrieth as it passeth. For remedy hereof, give unto the beast those things which a man receiveth against the Squinancy, and also let him blood in the root of his tongue, (I mean in the vein under the tongue) bathing his throat with a great deal of hot water mixed with Brimstone and Salt.

This disease in Hogs is not known from that which is called *Struma*, or the Kings evil at the first appearance, as *Aristotle* and *Pliny* write: the beginning of this disease is in the Almonds, or kernels of the throat, and it is caused through the corruption of water which they drink; for the cure whereof, they let them blood, as in the former disease, and they give them the Yarrow with the broadest leaves. There is a Hearb called *Herba impia*, all hoary, and outwardly it looketh like Rosemary, some say it is so called because no beast will touch it, this being beaten in pieces betwixt two tiles or stones, groweth marvellous hot, the juice thereof being mixed in milk and Wine, and so given unto the Swine to drink, cureth them of this disease, and if they drink it before they be affected therewith, they never fall into it, and the like is attributed to the hearb *Trinity*, and *Viola Martia*, likewise the blew flowers of Violets are commended for this purpose by *Dioscorides*.

Of the Kernels.

These are little bunches rising in the throat, which are to be cured by letting blood in the shoulder, and unto this disease belongeth that which the Germans call *Rangen*, and the Italians, *Sidor*, which is not contagious, but very dangerous, for within two dayes the beast doth die thereof, if it be not prevented: This evil groweth in the lower part or chap of the Swines mouth, where it doth not swell, but waxing white, hardeneth like a piece of horn, through pain whereof the beast cannot eat, for it is in the space betwixt the fore and the hinder teeth; the remedy is to open the Swines mouth as wide as one can, by thrusting into it a round bar, then thrust a sharp needle through the same sore, and lifting it up from the gum, they cut it off with a sharp knife; and this remedy helpeth many if it be taken in time: Some give unto them the roots of a kinde of Gentian to drink, as a speciall medicine, which the Germans for that cause call *Rangen crute*; but the most sure way is the cutting it off: and like unto this there is such another growing in the upper chap of the mouth, and to be cured by the same remedy: the cause of both doth arise from eating of their meat over hot, and therefore the good Swineheard must labour to avoid that mischief: The mischief of this is described by *Virgil*:

*Hinc canibus blandis rabies venit, & quatit egros
Tussis anibela sues, ac faucibus argit abess.*

Of the pain in their Lungs.

For all manner of pain in their Lungs, which come by the most part for want of drink, are to have Lung-wort stamped and given them to drink in water, or else to have it tyed under their tongues two or three dayes together, or that which is most probable, because it is dangerous to take it inwardly, to make a hole in the ear, and to thrust it into the same, tying it fast for falling out: and the same vertue hath the white Hellebor. But the diseases of the Lungs are not very dangerous, and therefore the Butchers say, that you shall seldom finde a Swine with sound Lungs or Livers: sometimes it falleth out that in the Lights of this Beast there will be apparent certain white spots as big as half a Walnut, but without danger to the Beast, sometimes the Lights cleave to the ribs and sides of the Beast, for remedy whereof you must give them the same medicines, that you give unto Oxen in the same disease. Sometimes there appear certain blathers in the Liver of water, which are called water-gals; sometimes this is troubled with vomiting, and then it is good to give them in the morning, fryed pease mingled with dust of Ivory, and bruised Salt fasting, before they go to their pastures.

Of the diseases in the Spleen.

By reason that this is a devouring Beast, and through want of water, it is many times sick of the Spleen, for the cure whereof you must give them Prunes of *Tamariske* pressed into water, to be drunk by them when they are a thirst; this disease cometh for the most part in the Summer, when they eat of sweet and green fruits, according to this verse;

Strata jacent passim sua quaq; sub arbore poma.

The vertue of these Prunes of *Tamarisk* is also very profitable against the diseases of the Milt, and therefore it is to be given to Men as well as to Beasts, for if they do but drink out of pots and cups made out of the wood of the tree *Tamariske*, they are easily cleared from all diseases of the Spleen; and therefore in some Countries of this great tree they make Hog troughes and mangers, for the safeguard of their Beasts, and where they grow not great, they make pots and cups. And if a Hog do eat of this *Tamarisk* but nine dayes together, at his death he shall be found to be without a Spleen, (as *Marcellus* writeth.) When they become loose in their bellies, which happeneth to them in the Spring time by eating of green Herbs, they either fall to be lean, or else to die. When they cannot easily make water, by reason of some stoppage, or sharpness of Urine, they may be eased by giving unto them spurge-feed. And thus much for the diseases of Swine. For conclusion whereof I will add hcreunto the length of a Swines life, according to *Aristotle* and *Pliny*, if it be not cut off by sickness or violent death; for in their dayes they observed that Swine did live ordinarily to fifteen years, and some of them to twenty; And thus much for the nature of Swine in general.

The medicines of the Hog.

The best remedy for the bitings of venomous Serpents is certainly believed to be this, to take *Aetius*. some little creatures, as Pigs, Cocks, Kids, or Lambs. and tear them in pieces, applying them whiles they are hot to the wound as soon as it is made, for they will not only expell away the poyson, but also make the wound both whole and sound. For the curing of Horses which are troubled with the inflammation of the Lungs; Take a sucking Pig and kill him neer unto the sick Horfe, that you may instantly pour the blood thereof into his jawes, and it will prove a very quick and speedy remedy. The panch of a sucking Pig being taken out and mingled with the yolk which sticketh to the inner *Marcellus*. parts of the skin, and moistned both together, doth very much ease the pain of the teeth being poured into that ear, on which side the grief shall lie.

The liquor of Swines flesh being boyled, doth very much help against the *Buprestis*. The same is also a very good antidote against poyson, and very much helpeth those which are troubled with the Gowt. Cheese made of Cowes milk being very old, so that it can scarce be eaten for tartness, being in the liquor or decoction of Swines flesh which is old and salt, and afterwards thoroughly tempered, doth very much mollifie the stiffness of the joynts, being well applyed thereunto.

The *Indians* use to wash the wounds of the Elephants which they have taken first with hot water, *Ælianus*. afterwards if they see them to be somewhat deep, they anointed them with Butter: then do they assuage the inflammation thereof, by rubbing of Swines flesh upon them, being hot and moist with the fresh blood issuing from the same. For the healing of the wounds of Elephants, Butter is chiefly commended, for it doth easily expell the iron lyrage hid therein, but for the curing of the Ulcers, there is nothing comparable to the flesh of Swine. The blood of Swine is moist, and not very hot, being in temper most like unto mans blood, therefore whosoever saith that the blood of men is profitable for any disease, he may first approve the same in Swines blood: but if it shew not the same, it may in a manner shew the like action.

Galen.

For although it be somewhat inferiour unto mans blood, yet at the least it is like unto it; by knowledge whereof, we hope we shall bring by the use thereof, more full and ample profit unto men. For although it do not fully answer to our expectation, notwithstanding there is no such great need that we should prove mens blood. For the encouraging of a feeble and diminished Horse, *Eumelinus* reporteth, the flesh of Swine being hot, mingled in wine, and given in drink, to be exceeding good and profitable. There also ariseth by Swine another excellent medicine against divers perillous diseases, which is this, to kill a young gelded Boar Pig, having red hairs, and being of a very good strength, receiving the fresh blood in a pot, and to stir it up and down a great while together with a stick made of red Juniper, casting out the clots of the blood, being gathered while it is stirring.

Then to cast the scrapings of the same Juniper, and stir the berries of the Juniper in the same to the quantity of seven and twenty, but in the stirring of the same, let the clots be still cast out. Afterwards mingle with the same these hearbs following, Agrimony, Rue, Phu, Scabious, Betony, Pimpernel, Succory, Parsly, of each a handfull. But if the measure of the blood exceed three pints, put unto it two ounces of Treacle: but if it shall be bigger, for the quantity of the blood you shall diminish the measure of the Treacle. (But all things ought to be so prepared that they may be put to the blood coming hot from the Boar.) These being mixed all together, you must draw forth a dropping liquor, which you must dry in the sun, being diligently kept in a glasse-vessell for eight dayes together, which you must do once every year, for it will last twenty years. This medicine is manifestly known to be a great preservative against these diseases following, namely the Plague, impostumes in the head, sides, or ribs, as also all diseases whatsoever in the Lungs, the inflammation of the Milt, corrupt or putrified blood, the Ague, swellings in the body, shaking of the heart, the Dropsie, heat in the body above nature, evill humors, but the principal-est and chiefest vertue thereof is in curing all poysons, and such as are troubled with a noysome or pestilent Fever.

Let him therefore who is troubled with any of the aforesaid diseases, drink every morning a spoonfull, or four or five drops of the same liquor, and sweat upon the same, and it will in very short time perfectly cure him of his pain. Some also do use Almonds pounded or beaten in the blood against the Plague, the liquor being extracted forth by the force of fire. A young Pig being killed with a knife, having his blood put upon that part of the body of any one which is troubled with warts being as yet hot come from him, will presently dry them, and being after washed, will quite expell them away. The blood of a Sow which hath once pigged being anointed upon women, cureth many diseases in them.

Marcellus.

Pliny.

The brains of a Boar or Sow being anointed upon the sores or Carbuncles of the privy members, doth very effectually cure them, the same effect also hath the blood of a Hog. The dugs of a woman anointed round about with the blood of a Sow, will decrease lesse and lesse. A young Pig being cut in pieces, and the blood thereof anointed upon a Womans dugs, will make them that they shall not encrease.

Concerning the grease of Swine, it is termed diversly of all the Authors, for the *Grecians* call it *Stear Choirion*, and *Oxungion*, for the imitation of the *Latin* word *Axungia*; but *Marcellus* also applyeth *Axungia* to the fat of other creatures, which among the ancient Authors I do not finde: for in our time those which in *Latin*, do call that fat *Axungia*, which encreaseth more solid between the skin and the flesh, in a Hog, a Man, a Brock or Badger, a Dor-mouse, a Mountain-mouse, and such like.

The fat of Swine they commonly call Lard which groweth betwixt the skin and the flesh, in expressing the vertues of this, we will first of all shew how it is to be applied to cures outwardly, and then how it is to be received inwardly; next unto Butter, it hath the chiefest commendations among the antients, and therefore they invented to keep it long, which they did by casting some salt amongst it, neither is the reason of the force of it obscure or uncertain, for as it feedeth upon many wholesome herbs which are medicinable, so doth it yeeld from them many vertuous operations; and besides the physick of it, it was a custom for new married wives when they first of all entred into their husbands house, to anoint the posts thereof with Swines grease in token of their fruitfulness while they were alive, and remainder of their good works when they should be dead.

The Apothecaries for preparation of certain Oyntments, do geld a male sucking Pig, especially such a one as is red, and take from his reins or belly certain fat, which the *Germans* call *Schmer*, and the *French*, *Oing*, that is, *Unguentum*: the husbandmen use Swines grease to anoint the axle trees of their Carts and carriages, and for want thereof they take putrified Butter, and in some Countries the gum that runneth out of Pine trees, and Fir trees, with the scum of Butter mingled together: and this composition taketh away scabs and tetter in Men: but it is to be remembered that this grease must be fresh, and not salted, for of salt grease there is no use, but to skowre those things that are exulcerated.

The antients deemed that this is the best Grease, which was taken from the reins of the Hog washed in rain water, the veins being pulled out of it, and afterwards boyled in a new earthen pot, and so preserved. The fat of Swine is not so hot and dry as the fat of other beasts, the chief use of it is to moisten, to fasten, and to scatter, and herein it is most excellent when it hath been washed in Wine, for the stale salt grease so mixed with Wine, is profitable to anoint those

that

that have the Plurisie, and mingled with ashes and Pitch, easeth inflammations, fistulaes, and tumors, and the same virtue is ascribed to the fat of Foxes, except that their fat is hotter then the Swines, and lesse moist: likewise ashes of Vines mingled with stale greafe of Hogs, cureth the wounds of Scorpions and Dogs, and with the spume of Nitre, it hath the same vertue against the bitings of Dogs. It is used also against the French disease (called the French pox) for they say if the knees of a Man be anointed therewith, and he stand gaping over it, it will draw a filthy matter out of his stomach, and make him vomit.

By *Serenus* it is prescribed, to be anointed upon the knees, against the stiffness of the Neck. Mingled with Quicksilver and Brimstone, it is soverain against the itch and scabs. This Lard being sod with the fat, and applyed to the body, doth mightily expell corruptions that cleave to the skin. The fat of Swine with Butter and Oyl of Roses, is infilled into the broken skins of the brain for the cure of them.

Likewise Buglosse plucked up by the root, and the roots cut off, and curiously washed, beaten and pounded into a Ball, and mixed with Swines greafe, is good to be laid to any incurable wound. It is also profitable for the wounded Nerves of the body, beaten together with Wormes of the earth, according to these Verses of *Serenus*:

— *Terræ lumbricos indere tritos,*
Quæ vetus & raris sociari axungia debet.

When bones are broke, if they be anointed with the sod greafe of Swine, and so bound up fast together, after they be well set and closed, grow wonderfull fast, sure and solid again: *Serenus* writeth thus of it;

Si cui forte lapis teneros violaverit artus,
Necesse adipem vetulos, & tiliam chamæsson.

By the fat (he meaneth the fat of Swine) because presently after he maketh mention of the dung of Swine to be good for the same cure. Being mingled with Pitch, it scattereth all bunches and fellons. The hardness of the breasts, Ruptures, Convulsions and Cramps, and with white Hellebor, it closeth up cliffs and chinks in the flesh, and maketh the hard skin to be soft again. It is very profitable against inflammations of Ulcers, especially the fat of the Boar Pig, mixed with liquid gum.

Women do also use the fat of a Sow that never bore Pig to cleare their skin, and to mix it with Pitch, and one third part of Asses greafe against the scabs. The same mixed with white Lead, and the spume of silver maketh the scars of the body to be of the same colour with the residue; and with Sulphur, it taketh away the spots in the Nails, mingled with the powder of Acorns: if the greafe be salt, it softneth the hardness of the flesh. Rue mixed with Swines sewer or Buls greafe, taketh away spots and freckles out of the face, and it is also profitable against the Kings evill, being mixed with the powder of a Sea Oyster shell, and being anointed in a Bath, it taketh away the itch and blisters. Featherfew and stale Swines greafe, is also prescribed against the Kings evill. This same alone or with Snow, easeth the pain of burnings in the flesh, and when there is an Ulcer, by reason of the burning, mix it with toasted Barly, and the white of an Egge, according to these Verses;

— *Combustis igni,*
Hordeæ vel fruges, atq. ovi candida junget,
Adsit adeps porcæ (mira est nam forma medelæ)
Junge chelidonias, ac sic line vulnèra succis,
Quodq. recens ussit glacies, axungia simplex
Mulcet, & ex facili grata est medicamine cura.

Fresh greafe is very profitable for those members that are furboted or riven of their skin, and likewise to anoint them that are weary with long journeyes. The ashes of womens hair burned in a shell, and mingled with the fat of Swine, are said to ease the pain of St. *Antonies* fire, and to stanch blood, and to cure Ring-worms.

The gall of a Swine, or of a Boar, and the Lights with the fat, filleth up the Kibes; and the stalks of Cabiges with the roots burned, and mingled with Swines greafe being applyed to the sides, do cure the dayly pains thereof. And thus far of the use of this greafe for the bodies of men.

Now also it followeth in a word to touch the use thereof for the bodies of Beasts. When the horns of Oxen or Kine are broken, they take a little Lint, Salt, Vinegar, and Oyl, and lay them upon the broken horn, powring in the liquid, and binding the rest close on the outside, and this they renew three dayes together; the fourth day they take the like quantity of Swines greafe, and liquid Pitch, and with a smooth rind or bark of pine they bind it to close, and so it is fastened again. When the hoof or ankles of an Ox are hurt with the plough share, then take hard Pitch, Swines greafe and Sulphur, roul them up all together in unwashed wool, and with hot burning Iron melt them upon the wound or horn.

The ears of Dogs in the Summer time are exulcerated by flies, into the which sores it is good to insill liquid Pitch sod with Swines greafe, and this medicine also is good to deliver Beasts from the tickes, for they fall off as many as touch it. When Lambs or Kids are troubled with the Sheep pox, some use to anoint them with Swines greafe and the rust of Iron, that is two parts of Swines greafe, and one part of rust, and so warm them together. Also for the scabs upon Horses heels, that are called the scratches, which come for the most part in the Winter time, they cure them on this manner; They take the fat of Swine, and melt it on the fire, and pour it into cold water, which afterwards they take it out and beat it well together, at last they mingle it with Brimstone beaten small, and so anoint the place therewith three days together, and the third day they open the scabs, and so continue anointing till it be cured.

When a Horse cannot hold his Neck right, it is good to anoint him with Oyl, Wine, Hony, and Hogs-grease; the manner of some Leeches is, when they have made a suppuration by Oxen in burning, they first of all wash it with stale Urine, and afterwards mingle an equal quantity of Pitch and Hogs greafe together, wherewithal they anoint and cure the sore.

Sometime the blood of Oxen falleth down into their feet, wherein it congealeth and breaketh forth into scabs, then must the place first of all be scraped with a knife, and the scabs cut away, afterwards with cloaths wet in Vinegar, Salt, and Oyl, moistened and pressed hard, and last of all by an equall quantity of Hogs greafe, and Goats sewet sod both together, it will be cured by laying it unto it. And thus much for the remedies of Swines greafe towards Beasts. The huskes of Beans being beaten small to powder, and mixed with Swines greafe, is very profitable against the pain of the hips and the nerves.

Some Physitians take the greafe of Swine, the fat of Geese, the sewet of Bulls, and the *Oesypus* or sweat of Sheep, and anoint therewithal Gowty legs, but if the pain remove not, then do they add unto it Wax, Mirtle, Gum and Pitch, and some use it mixed with old Oyl, with the stone *Sacophagys*, Cinck-foyl beaten in Wine with Lime or ashes. This Swines greafe beaten in water with Cumin, is prescribed by *Simeon Lethi* against the Gowt. It remedieth the falling of the hair, and the pain in the heads of Women, mingled with one fourth part of gals, and the like virtue it hath with wilde Roses, *Lingulaca* and *Hippocampinus* with Nitre and Vinegar. When the corners of ones eyes are troubled with Worms, by anointing them with the fat of a Sow with Pig, beating them together both within and without, you shall draw all the Wormes out of his eyes.

When one hath pain in his ears whereby matter issueth forth, let him beat the oldest Lard he can in a Morter, and rake the juyce thereof in fine wool, then let him put that wool into his ear, making it to work through warm water, and then infuse a little more of the juyce of that Lard, and so shall he work a great cure in short time. And generally the fat of Geese, Hens, Swine, and Foxes, are prepared for all the pains in the ears.

If there arise any bunch in the neck or throat, see the Lard and Wine together, and so by gargaring that Liquor, it shall be dispersed, according to the Verses of *Serenus*;

— In rigore —

*Cervicis geminus mulcebitur unguine poples,
Hinc longam pariter nervos medicina sequetur.*

And it is no marvel that the vertue of this should go from the knees to the Nerves, seeing that *Pliny* affirmeth, that from the anointing of the knees the savour goeth into the stomach: there is so great affinity or operation of Rue upon the stones, that in antient time they were wont to cure burkness by anointing the Cods with wilde Rue and Swines greafe.

Also this Grease with rust of Iron, is good against all the imperfections in the seat. Butter, Goose greafe, and Hogs greafe, are indifferently used for this infirmity. Also this is used to keep Women from abortments that are subject thereunto, being applyed like an eye salve. In the diseases of the Matrix, especially Ulcers, they first of all dip Spunges or Wool in warm water, and so cleanse the places infected, and afterwards cure it with Rozen and Swines greafe mingled together, and often using it in the day and night by way of Oyntment; but if the exulceration be vehement, after the washing they put Hony unto the former confection, and some make a perfume with Goats Horn, Gals, Swines greafe, and Gum of Cedars. And *Fernerius* saith, that Lard cut small and beat in a Morter of stone like paste, in a Limbeck of Glasse, rendereth a white water, which maketh the hair yellow, and also the face comely. If a man be poysoned with Hemlock, he cannot avoid it better, then by drinking Salt, Wine, and fresh Greafe. A decoction hereof is good against the poyson of *Bouprestis*, and against Quicksilver. The sewet of a Sow fed with green Herbs, is profitable to them that are sick of a consumption of the Lungs, according to this Verse of *Serenus*;

Proderit & veteris sevi pila sumpta suilli.

This may also be given them in Wine, either raw or decocted, or else in pills to be swallowed down whole if it be not salted, and the fift day after they prescribe them to drink out of an Eggeshell Liquid Pitch, binding their sides, breast, and shoulder bones very hard. It is also used for an old Cough after it is decocted, the weight of a Groat being put into three cups of Wine with some Hony. It is given also to them that have the flux, especially old Lard, Hony, and Wine, being beaten together

together till they be all as thick as hony, whereof the quantity of a Hasil-nut, is to be drunk out of Water. Also morsels of Swines grease, Butter, and Hony, being put down into a Horse throat, cureth him of an old Cough; and finally a piece of this Grease being old, moistened in old Wine, is profitable to a Horse that hath been overheated in his journey. When Calves be troubled with belly Wormes, take one part of Swines grease, and mingle it with three parts of Hyfop, afterwards thrust it down into the throats of the Calves, and it shall expell the Wormes.

When the tongue and chaps wax black by a peculiar sickness of the mouth, which the Physicians call *Morbus Epidemicus*, it is most wholesome to rub the tongue with the inner side of the rines of Bacon, and so draw out an extreme heat: and it is said if a man be deeply infected, whose tongue is thus rubbed; the said Bacon rine being eaten by any Dog, will procure his death. The fat of Wolves and the marrow of Swine is good to anoint blear-eyes withal. By swallowing down the marrow of Swine, the appetite to carnal copulation is encreased.

The ashes or powder of Hogs bristles which are taken out of Plaisterers Pencils, wherewithal they rub wals, and mixed with Swines grease, doth ease the pain of burnings, and also stayeth the bleeding of wounds, and the falling down of the seat being first of all washed in Wine and dried Pitch mingled therewithal. The powder of the cheek-bones of Swine, is a most present remedy for broken bones, and also for ulcers in the legs and shins. The fat of a Boar is commended against Serpents, and so also is the liver of a Bore Pig when the Fibres are taken from it, if the weight of two pence be drunk in wine.

The brain of a Sow roasted at the fire, and laid to a Carbuncle, either disperfeth or emptieth it. Likewise the bloud and brains of a Boar or a Sow, or Boar Pig being mixed with Hony, doth cure the Carbuncles in the yard, and the brains alone, openeth the gums of children, to let out their teeth, as *Serenus* writeth;

Aut teneris cerebrum gingivis illine porci.

There are naturally in the head of a Hog two little bones that have holes in them, one in the right part, and another in the left. Now if it happen that a man finde these bones by chance, either one or both of them, let him lay them up safe, and whensoever he is troubled with the Head-ach, let him use them, hanging them about his neck by a silken threed, that is to say, if the head ach on the right side, let him hang the right bone; and if on the left, the left bone: These things I report upon the credit of *Marcellus*. *Galen* also writeth, that if the pole of the Swines ear be hanged about ones neck, it will preserve him from all Cough afterwards.

They were wont, as *Dioscorides* writeth, to see the a Gudgeon in a Swines belly, by the eating whereof, they stayed the falling down of the seat. If a man eat the lungs of a Boar, and a sow sodden and fasting, they will preserve him from drunkenness all that day; and likewise the said lungs doth keep the soles of the feet from inflammation which are caused by fraight shooes. It also healeth the piles, clifts, and breaking of the skin, and kibes of the feet, by laying to it a Boars gall, and a Swines lungs.

If a Man drink the Liver of a Sow in Wine, it saveth his life from the bitings of venomous beasts. Also the liver of a Boar burned with Juniper-wood, cureth all the faults in the secrets; and drunk in Wine without Salt after it is sod, stayeth the looseness of the belly. The gall of Swine is not very vehement, for as the whole body is waterish, so also is that; neither is there any beast herein comparable unto it, (except the wilde) and that is enemy to Ulcers, ripening the sore, scattering the evill humors, and resisting the bitings of venomous Beasts. Also the gall of Boars layed to bruised Articles, doth procure unto them wonderful ease. One shall take away an old scurfe very easily by the gall of a Sow, which farrow if it be mingled with the juyce of the hearb *Siclamine*, and therewithal to rub the head well in a Bath. To keep hair from growing upon the browes when it is once plucked off; Take the gall and fat of a Boar, and put them into a smooth thick earthen pot, and of the sharpest Vinegar and oyl of Almonds four ounces a piece, pour that into it, and then binde the mouth of the pot close with a thick linnen cloth, so letting them stand seven dayes together, afterwards open them again, and you shall finde upon the top a certain scum like gold, wherewithal anoint those places, which you would have remain bald, after that you have beaten it together in a morter: likewise the gall of a Barrow Hog or Boar Pig, doth scatter Apostumes and bunches in any part of the body. The gall of a Hog dryed in an Oven, and laid upon a Carbuncle, as much as will cover it, it cleaveth fast to the fore, and draweth out the root and core thereof.

It is likewise good against the Ulcers of the ears, except the Ulcer be of long continuance, and then it is good to use a sharper gall, such as is a Sheeps, an Oxes, a Bears or a Goats, they mingle herewithal sometimes oyl of Roses; but for old wounds in the ears, it is good to take one part of best Hony, and two parts of the sharpest Vinegar, and so let them boyl on the fire three walmes, afterwards set them far off from the fire, untill it leave seething or boyling, and then put Nitre unto it, so long till you know by the Vapor that the Nitre is settled, then see the it again upon a gentle fire, so as it boyleth not over, and lastly put into this the gall of a Boar, or of a Goat, and then see the it the third time, taking it from the fire, when it is luke-warm, infuse it into the ears, and this gal must not be the gall of a Sow, except of such as never bare Pig. Also this gall being dried doth

doth cure the Hemorrhoids and kibes. There are also certain sifters or clifts in the hoofs of Horses, which are cured in one nights space, by applying unto them the gall of a Barrow hog, mingled with the yolkes of Egges.

The blather of Swine will provoke urine, and of a Boar Pig sod, roasted or boyled, and so eaten and drunk, causeth a man to contain his urine, which never could before. When the head of a Man is exulcerated and runneth, take the bladder of a Barrow-hog, with the Urine, and cast the same into the fat cut small, afterwards mingle it so with Salt, that it may appear all white, then binde it up fast, and dig a hole in the Garden about a cubit deep, wherein bury and cover the said gall, and so let it rest forty or fifty days in the earth, till the matter therein contained be putrified, then take it out and melt it in a dish, and keep the ointment that ariseth of it. Then wash the head all over with lye, unto the intent that it may not be offended through the Acrimony thereof, mingle it with new wine or with water, and then when it is dry after such washing, anoint it with the said ointment, and so will the noxious and unclean hairs fall every one off, and new pure ones arise in their place, and you must be very carefull to keep the head from cold.

They were wont to give the stones of Swine against the Falling sickness, but when they were first dried, and afterwards beaten to powder, and given to the sick party in Swines milk, so he was commanded to abstain from wine many dayes before, and after he received it for many dayes together. In *Savoy* they take the stones out of a young Hog when they geld him, and scorch them at the fire so long, till they may be crushed to pieces, and this they prescribe to be drunk in Wine against the Colick.

Some give the powder of Boars stones to men and women, to increase copulation and conception. The Magicians or wisemen of the East prescribed to be drunk for the incontineny of urine, the powder of a Boar Pigs stones out of sweet wine, and then to make water in a Dogs kennel, which while he is doing, to speak to himself these words; *Ne ipse urinam faciam ut Canis in suo cubile*: but I will leave this superstition, as not worthy to be Englished. Some take the bladder of a Sow burned to powder, and drunk for this infirmity, and some a certain liquorish poyson, which droppeth from the Navel of a Boar Pig, immediately after it is farrowed.

Bacon beaten together, and made like meal, is good agais a continual Cough, or stayeth bleeding at the mouth. Bacon broath is also mingled with other medicines against the Gowt, and they make an emplaister of Bacon to scatter gravelly matter in the bladder. The bones of Bacon about the hips are kept to clense and rub teeth, and by burning of them, not only the loose teeth in men are fastned, but also the wormes in the teeth of beasts are killed. If a Horse be troubled with the Glanders, or any such liquid matter running out at his mouth and nose, then let the broath wherein Bacon and Swines feet hath been sod, be mixed with hony, and so strained afterward, let it be beaten well together with Egges, and so infused into the left Nostril of the Horse. *Gagnerius* prescribeth an Emplaister to be made of Cheese, and the feet of Swine against the shrinking up of the finews.

The ancle bone of a Sow being burned untill it be white, and bruised and taken in drink, doth cure the swellings of the neck, and pains of long continuance. The ancle bone of a Sow burned and bruised, and given to drink only in Water, is a remedy against the Colick and stone. The ankle bone of a Sow doth drive away those swellings which arise in the stomach, and doth ease the pains of the head.

The ashes of the ancle bone of a Sow or Boar, doth cure Corns, clefts, or other rifts in the skin, and the hardness of the skin that is in the bottom of the feet. It is also shewed, that if the bone shall be hung about the neck of those that are troubled with quartain agues, that then they shall be far better, but of what bone he speaketh, it is uncertain, but as he remembreth it is the next bone before the fat of the anckle bone.

The bones that are taken from the hoofs of Sows, burned and beaten to powder, are very good to rub and clense the teeth: Also the bones next to the ribs of Bacon, being burned, are very good to fasten the teeth. The bones that are taken from the hoofs of hogs, and burned to powder, are used to clense the teeth, and it is very good also to fasten the teeth. The ashes which are made of a Harts horne, or of the hoof of a Hog, are very good to clense or rub the teeth. The bones which are taken from the hoof of a hog burned and beaten to powder and sifted, and a little Spicknard added thereto, doth make the teeth very white, by often rubbing them therewith. The ashes of the hoofs of a Boar or Sow, put in drink, doth stay the incontineny of Urine, and also the Bloody flux. Take as much Mercurial sodden, as ones hand can hold, sod in two pintes of Water unto one pinte, and drink the same with Hony and Salt, and the powder of a Hogs hoof, and it shall loose the belly.

The milk of a Sow drunk with sweet Wine, helpeth women in travell; and the same being drunk alone restoreth milk in Womens breasts; it is also good against the Bloody flux and Tiffick. The stones of Swine beaten to powder, and drunk in Swines milk, are good against the Falling sickness. The wise men were wont to prescribe the left foot or leg of a Camelion to be bound unto the feet against the Gowt.

There are also many uses of the dung of Swine, and first of all it being mixed with Vinegar, is good against the bitings of venomous beasts, and *Aetius* maketh an Emplaister thereof, against the biting of a Crocodile. It is to be applied single against the stinging of Scorpions, and also the biting

biting of any other reptile creature. If a Serpent bite an Oxe or a Horse, or any other Four-footed Beast, take the stalk of *Nigella*, and beat it into a pinte of old wine, so as all the juyce may go out thereof, then infuse it into the Nostrils of the Beast, and lay Swines dung to the sore, so also it may be applyed unto men, whereunto some do add Hony Attick, and the Urine of a man, and so it is to be applyed warm, it being also warmed in a shell, and dryed to powder, mixed with Oyl, and layed to the body, easeth outward pains. It is likewise profitable against burnings, itch, scabs, and blisters, and trembling of the body, according to these Verses of *Serenus*;

Stercoris ex porco cinerem confundito lymphis :
Sic pavidum corpus, dextra pascente foveto.

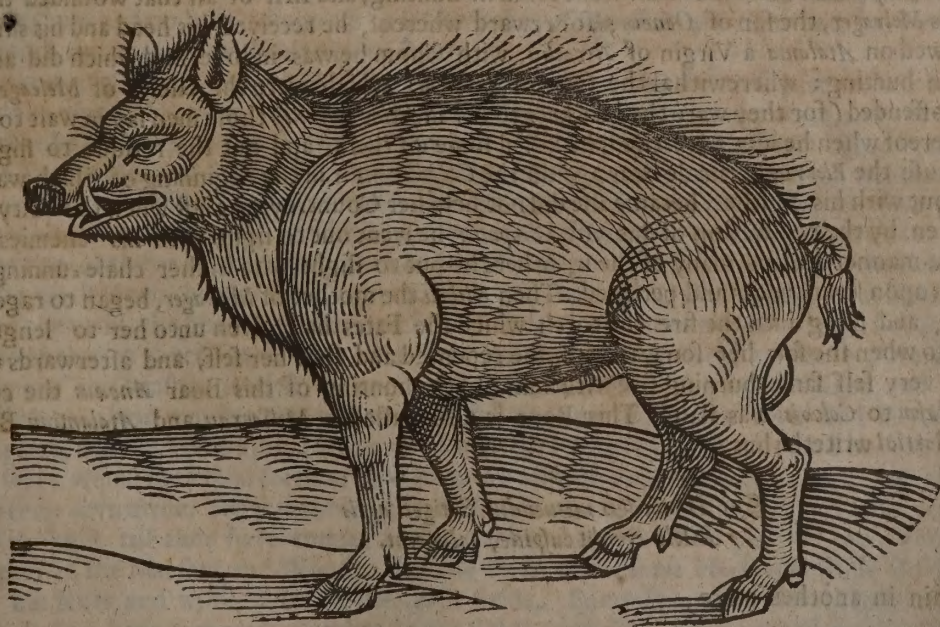
This is also commended against hard bunches in the body, hardness of the skin, clifts and chinks in the flesh, freckles, lice, and nits, and also the breaking of the sinews;

Si cui forte lapis teneros violaverit artus,
Non pudeat luteæ stercus producere poræ.

It is also good to stay bleedings at the Nose, if it be layed to the Nostrils warm, and to stay the bleedings of Beasts, if it be given them in Wine; the same being mixed and covered with Hony, is anointed upon Horses for the Quinsie, or swellings of the throat. If the breasts of a Woman do swell after her delivery of childe, it is good to anoint them with water, and the dung of Hogs, also the powder thereof mixed with Oyl, is profitable for the secrets of men and women. If a man have received any hurt by bruises, so as his blood stayeth in his body, or suffer Convulsion of the Nerves through Cramps, those evils are cured by the dung of a Boar gathered in the Spring time, dried and sod in Vinegar, and some of the later Physitians prescribe it to be drunk in Water, and they say that *Nero* the Emperor was wont to use that medicine, when he would try the strength of his body, in a running Chariot: also the powder of the same being drunk in Vinegar, is profitable for the Rupture and inward bruises, and warmed in Wine against all manner of fluxes and Tificks. For the pains of the Loins and all other things which need mollifying, rub them first of all with Deers grease, and then sprinkle them with old Wine mixed with the powder of Swines dung.

The Urine of a Swine is also good against all bunches and Apostemations being layed to in wool. The urine of a Boar Pig dried in the smoak, and drunk with sweet Wine, the quantity of a Bean, is profitable against the Falling evill; against the whiteness of the eyes, and the stone in the reins and bladder. And thus much of the Swine in general.

Of the Wilde B O A R.



This Beast is termed, by no other name, then the common Swine among the Hebrews, namely, *Chasir*, as you may see in *Psal. 80.* where the Prophet speaketh of *Chasir de Silva*; that is, the Boar out of the wood. The Grecians call him *Capros* and *Syagros*, and *Clunis*, although some take *Clunis* for a Boar of an exceeding great stature. *Aristophane* saith, that there are some of this kinde which

which are called *Monii*, which word by St. Cyril upon the Prophet *Hosea* is interpreted a wilde Ass, but I rather incline to their opinion which say, that *Chlunis*, *Monios*, and *Chauliodon* are Poetical words for cruell Boars. *Aristotle* is of opinion, these Boars being gelt when they are young, grow greater and more fierce, whereunto *Homer* also yeeldeth as he is thus translated :

*Nutrit exetum sylvis horrentibus aprum
Instar non bruti, sed dorsi montis opaci.*

But this is to be understood of such Boars, as by accident geld themselves by rubbing upon any tree. The French call this Beast, *Sanglier* and *Porc Sanglier*; the Italiane, *Cinghiale* and *Cinghiare*, and *Porco*. The Spaniards, *Puerco Sylvestre*, and *Pueco montes*, and *Javali*; the Germans, *Wild Schwein*; the Illyrians *Weprz*; and the Latins, *Aper*; for *Porcus* signifieth the tame Swine, and *Aper* the wilde. The reason of this Latin name *Aper*, is derived from *Asper*, because he liveth among the sharp thorns and woods; but I rather think, that *Aper* is derived from *Capros* the Greek word, or else *Aper* a feritate, from fierceness and wildeness, by changing one letter into another.

The Epithets.

The Epithets of this Beast are many, both in Greek and Latin, such as these are; sharp, wilde, Arcadian, Atalantean, troubler, bloody, toothed, hard, Erymanthean, cruell, outrageous, fierce, strong, gnashing, lightning, yellow, raging, Acorn-gatherer, quick, rough, rough-haired, horrible, Menalian, Mysian, Meleagrian, threatening, woodwanderer, cruel, Sabelican, bristle-bearer, foaming, strict, filthy, Tegean, Tuscan, fearful, wry-faced, truculent, devourer, violent, Umbrian, wound-maker, impetuous, mountain-liver, armed on both sides, and such like.

But of these Epithets there are only three, Erymanthean, Calydonian, and Mysian, which do offer unto us peculiar stories, according as we finde them in the Poets, which we will prefix by way of moral discourse before we enter into the natural story of this beast. First of all, Erymanthus was a hill of Arcadia, wherein was a wilde Boar, that continually did descend down and depopulate their Corn-fields; Hercules coming that way, and hearing of that mischief, did kill the said Boar, and carryed him upon his back to Eurystheus, whereat Eurystheus was so much afraid, that he went and hid himself in a brazen vessell, whereof Virgil speaketh thus :

Placavit sylvam, & Lernam tremefecit arcu.

And of this Erymanthean Boar Martial speaketh ;

Quantus erat Calydon, aut Erymanthe iuvr.

Of the Calydonian Boar there is this story in Homer; When Oeneus the Prince of Aetolia sacrificed the first fruits of his Countrey to the Gods, he forgot Diana, wherewithal she was very angry, and sent among the people a savage Boar, which destroyed both the Countrey and Inhabitants : against whom the Calydonians and Pleuronians went forth in hunting, and first of all that wounded the wilde Beast was Meleager, the son of Oeneus; for reward whereof, he received his head and his skin, which he bestowed on Atalanta a Virgin of Arcadia, with whom he was in love, and which did accompany him in hunting: wherewithal the sons of Thestius, which were the Uncles of Meleager, were greatly offended (for they were the brothers to his mother Althea) those men lay in wait to destroy him, whereof when he was advertised, he killed some of them, and put the residue to flight. For which cause the Pleuronians made war against the Calydonians: in the beginning of which war Meleager fell out with his Mother, because she did not help her Countrey. At last when the City was almost taken, by the perswasion of his wife Cleopatra, he went out to fight with his enemies, where in valiant manner he slew many of them, others he put to flight, who in their chase running away, fell down upon steep rocks and perished. Then Althea the mother of Meleager, began to rage against her son, and flung into the fire the torch which the Fates had given unto her to lengthen his dayes; so when she saw her son was dead, she repented and slew her self, and afterwards was cast into the very self same burning fire with him. In the hunting of this Boar Ancaeus the companion of Jason to Colchis was slain. This Boar is also called a Meliagran and Atalantian Boar, of whom Martial writeth thus ;

*Qui Diomedem metuendus Setiger agris
Aetola cecidit cuspide, talis erat.*

And again in another place ;

*Lacte mero pastum pigrae mihi mortis alumnus
Ponat, & Aetolo de sue dives edat.*

It is said that this Boar had teeth of a cubit long, and the manner of his hunting was expressed in the pinnacle of the Temple of Tegea, for which cause he is called the Tegean Boar. Upon the one side of the Boar against his middle, were painted Atalanta, Meleager, Theseus, Telamon, Peleus, Pollux, and Iolans the companion of all Hercules travails. Prothus and Cometes, the sons of Thestius and brethren of

of *Althea*, on the other side of the Boar stood *Anceus* wounded, and *Epochus* sustaining his hunting spear; next unto him stood *Castor* and *Amphiaras*, the son of *Oicleus*. After them *Hippotus*, the son of *Cercion*, *Agamedes* the son of *Stymphelus*, and lastly *Pyrithous*. The teeth of this Boar were taken away by *Augustus* after the time that he had overcome *Anthony*, which he hung up in the Temple of *Bacchus*, standing in the Gardens of the Emperor. And thus much for the *Calidonian* Boar.

Now concerning the *Mysian* Boar, I finde this story recorded of him; When *Adrastus* the *Phrygian*, who was of the Kings bloud, had unawares killed his brother, he fled to *Sardis*, and after his expiation dwelt with *Cresus*. It happened at that time that there was a wilde Boar came out of *Olimpus*, and wasted a great part of the Countrey of *Mysia*: the people oppressed with many losses, and terrifyed with the presence of such a Beast, besought the King to send his own Son *Anys* with much company to hunt and kill the Boar. The King was affraid thereof, because in his dream he saw a vision, his Son perishing by an iron spear; yet at last he was perswaded, and committed the safeguard of his body to *Adrastus*. When they came to the wilde Beast, *Adrastus* bent his spear at the Boar, and while he cast it to kill him, the son of *Cresus* came betwixt them, and so was slain with the spear, according to the dream of his Father. *Adrastus* seeing this misfortune (that his hands which should have defended the young Prince, had taken away his life) fell into extreme passion and sorrow for the same, and although the King knowing his innocency, forgave him the fact, yet he slew himself at the Funeral of *Anys*, and so was burned with him in the same fire. And thus much for the *Mysian* Boar.

Now we will proceed to the particular story of the wilde Boar, and first of all of the Countries breeding Boars. The *Spaniards* say, that in the new found world, there are wilde Boares much lesse then ours, which have tails so short, that one would think they had been cut off, they differ also in their feet, for their hinder feet are not cloven, but stand upon one claw, and their forefeet are cloven like common Swines. Their flesh also is more sweet and wholesome then common Swines flesh, whereof *Peter Martyr* giveth reason in his *Ocean Decads*, because they feed under Palm trees, neer the Sea-shore, and in Marshes.

Olaus Magnus writeth, that in divers places of *Scandinavia*, they hunt wilde Boars which are twelve foot long. The wilde Boars of *India* according to *Pliny* have teeth, which in their compass contain a Cubit, and besides their teeth growing out of their chaps, they have two horns on their head like Calves horns. In the Islands *Madera*, there are abundance of wilde Boars, likewise in *Helvetia*, and especially in those parts that joyn upon the *Alpes*, where they would much more abound, but that the Magistrates give liberty to every man to kill and destroy them. There are no Boars in *Africa*, except in *Ethiopia*, where their Boars have all horns, and of those it was that *Lycotas* the Countryman saw in a publick spectacle at *Rome*;

Et niveos lepores, & non sine cornibus apros.

that is, Hares white like Swine, and Boars that have horns. It is a wonderful thing that there are no Boars in *Creet*, and no lesse admirable that the Boars of *Macedonia* are dum and have no voice: and thus much concerning the Countries of Boars.

Now concerning their Colour, it is observed, that wilde Boars for the most part are of a black and brown colour, especially at the top of their hair, and somewhat yellow underneath, and yet *Pausanias* writeth, that he hath seen Boars all white; howbeit that is not ordinary. Their bloud is sharp and black like black wine, and such as will never be thick, their eyes like to the eyes of wrathful beasts, as Wolves and Lyons. Their tuskes are most admirable, for with them while they are alive, they cut like sharp knives, but when they are dead, they have lost that cutting property, the reason of it is in the heat of the tooth, for it is certainly affirmed by Hunters of wilde Boars that when the Beast falleth first on the earth down before the Dogs and Hunters, if one pull off a bristle from his back, and lay it upon the tusk, the heat thereof will make it shrink up and turn together like a hot Iron, and if Dogs do chance to touch them, they burn their hairs from their back, whereby the ardent and fiery nature of this beast is manifest, as an everlasting monument of the work of God, and yet notwithstanding all their wrath they have no gall, (as *Pliny* writeth) their head and face are their strongest parts, and therefore upon them they receive the Hunters blowes as upon a bucket.

Their tears which they send forth of their eyes are very sweet, and of all other things they cannot abide their own urine, for it is thought to be so hot that it burneth them, and they can never run away in flight till they have emptyed their bellies thereof. The place of their abode is for the most part in the Marshes and Woods: for the *Scythians* did hunt Harts and wilde Boars in the Marshes, but *Roes* and wilde Asses in the plain fields. Sometimes they hide themselves among Fern, which they have gathered together in the fields, and they dig holes and ditches for themselves, wherein they rest: And this is observed, that they love not so much to wallow in the mire, as the tame and domesticall Swine, although they be of a hot and fiery nature. Their voice is like the voice of common Swine, but the females is somewhat more shrill. They live for the most part solitary and alone, and not in heards as the other do, and feed upon such meats as the vulgar Swine. *Tragus* saith, that there is a kinde of green Corn in *Germany*, which is armed with very sharp stalks and points at both ends like Barley, this the people do see the and eat like pease.

Now forasmuch as wilde Boars are destroyers of their Corn, they sow that grain neer the Woods

Of the wilde Boars parts and other accidents.

Oppianus. Gillius.

The places of their abode.

woods sides where the Boars abide, whereby they defend and safeguard their better Corn. Bores do also eat the worms of the earth, which they dig out with their noses; and in *Pamphilia* and the mountains of *Cilicia*, they do eat Salamanders without hurt or danger to themselves, and yet if men chance to eat of their flesh which have so devoured them, they die afterwards through the poyson: whereby it manifestly appeareth, that there is danger in eating wilde Hogs flesh. Hemlock and Henbane is also poyson to Swine, which they never eat but unawares, and having eaten it, presently they lose their strength in their hinder parts, whereby they are faine to draw them after them, and in that manner they crawl to the water sides, where they gather together Snails and Sea-crabs, by eating whereof they are restored to their former health. Ivy is also a medicine for the diseases of Boars, and old age maketh them altogether unfit to be preserved. Therefore in ancient time when they kept Boars in Parks, whereof *Fulvius Hirpinus* was the first beginner, *Lucius Lucillus* and *Quintus Hortensius* the immediate followers, I say they never kept Boars past four year old, because after that time they waxed lean and pined away.

The generati-
on of wilde
swine.

Now concerning their generation or copulation to engender, it is certain that they do not couple often in the year, as the tame Swine, but only once, and that in the beginning of Winter, or the middle, so that they may bring forth in the Spring time of the year; and they choose the most unused, narrow, hollow, and steep places to couple in. The male abideth with the female thirty dayes together, and the female beareth her young ones, both for the number and the time answerable to the vulgar Swine. When the Boar is in copulation before-hand, while he worketh the Sow, he carrieth a mouth as white as any Horse, which as in the Horse it riseth through vehement stirring, so in the Boar it riseth through vehement heat and fervor. In the time of their lust they are very sharp, eager, and cruell, fighting with all males that come in their presence, and therefore they arm their bodies by rowling in the durt, and also by rubbing them against trees, that so they may be hard to withstand one another. This fight of Boars is thus described of *Virgil*:

*Per silvas tum sevus Aper, tum pessima Tigris,
Ipse ruit dentesque sabellicus exacuit Sus,
Et pedibus subigit terram, fricat arbore costas,
Atq; hinc atq; illinc humeros ad vulnera durat.*

The fight of
Boars.

Being inflamed with venereal rage, he so setteth upright the bristles of his neck, that you would take them to be the sharp fins of Dolphins; then champeth he with his mouth, grateh and gnasheth his teeth one against another, and breathing forth his boyling spirit, not only at his eyes, but at his foaming white mouth, he desireth nothing but copulation, and if his female endure him quietly, then doth she satisfie his lust, and kill all his anger; but if she refuse, then doth he either constrain her against her will, or else layeth her dead upon the earth. Sometimes they force a tame Sow, and then the Pigs so begotten are called *Hibrida*, that is, by way of contumely, Bastards: And it is to be observed, that never any wilde beast being tamed, doth engender by copulation, except they be tamed very young, only wilde Boars do quickly mingle with vulgar Swine. The female of this kinde hath no teeth standing out of her mouth like the male, except very short ones, and therefore the residue are more like a saw then the teeth of a Boar, for it is a generall rule;

Nulli dentes exerti quibus ferrati.

Concerning the disposition of Boars in generall, it is brutish, stubborn, and yet couragious; wrathfull, and furious, because their blood is full of fibres, and ministreth unto them sudden matter of anger; neither are there any beasts so cloathed with hair as Lions and Boars; wherefore both of them are of like fierce and angry nature, yet we have shewed in the story of the Hart, how they were drawn from their meat and dens by the voice of Musick. It is said, that they are not capable of any discipline or instruction, and yet *Scaliger* affirmeth, that he saw a Bore that belonged to the Lord of *Salvimont*, of an exceeding great stature, tamed by his master, who at the founding of the horns, would come running like a Dog to hunting, and go abroad with his master among the Dogs, contending with the most swift in race to attain the prey.

They naturally desire to bury their own footsteps in wet miery places, that they may not be found out by the Hunters; and as the rage of the Boars is greatest in the time of their lust, so is it in the Sows after their farrowing; and therefore it was an excellent speech of *Cyaxares* unto *Cyrus*, that Swine when they see the Hunter, although they be many, yet run away with their Pigs; but if the Hunter follow one of the young ones, then doth the Dam turn again, and with all her force endeavour to destroy him that would deprive her of her young ones. Before the Boars do fight, they go and whet their teeth, but while they are in contention, if it happen that a Wolf cometh in sight, then they forsake their mutuall combats, and all of them joyn together to drive away the Wolf. The Beare dareth not to enter upon the wilde Boar, except behinde him, and unawares. *Hesiod* saith, that *Vulcan* pictured upon the shield of *Hercules*, the images and shapes of many wilde beasts fighting one with another, neither of both yeelding to other, till both of them fell down dead, which caused *Alciatus* to make this Emblem of a Vulture standing by to see their contention, and

and suffered them to kill one another without parting; whereby afterwards she enjoyed their dead carcases:

Dum sevis merent in mutua vulnera telis.

Vagus laeus ferox, dente timendus aper.

Accurrit vulnus spectatum, & prandia capat.

Gloria victoris, praeda futura sua est.

It is reported that Boars will swim single and alone like fishes, and some of them two together like Wolves, and many times in flocks and herds like Roes, for such is their ardent nature and desire of meat, that they fear not the highest Mountains, nor the deepest waters. Now concerning the flesh of wilde Boars, although we have spoken abundantly in the former discourse of Swine, yet must we adde something in this place; for although generally the flesh of tame Swine is viscous and cold, yet the flesh of the wilde is more temperate and nourishable, and therefore of lighter concoction and stronger nourishment. Therefore those which had a Timpany were prescribed to eat Boars flesh and wilde Sows, for it drieth, strengthneth, and moveth; and men that are vexed with Saint Antonies fire, are forbidden to eat all salt meats, and leavened bread, yet permitted to eat of Boars flesh. It is reported, that *Publius Servillus Rullus*, was the very first among all the Romans that did set at his Table a whole Boar, most delicately dressed and stuffed with variety of divers costly dishes; which Boar by *Varro* is called *Aper Millianus*, that is, *Mille librarum*, of a thousand pound worth; against which intolerable gluttony and cost, *Juvenal* made these Verses;

Quanta est gula, quae sibi totos

Ponit Apros, animal propter convivium natum.

Apitius in the beginning of his eight book, prescribeth the manner how to dresse the flesh of wilde Boars, wherewithall if any be delighted, let him read that book; for it is not my purpose in this Treatise, to blot any paper with any long instruction for Cooks and Belly-gods, neither were it any part of this naturall History, nor yet agreeable to my calling, or enterprise; and therefore I will only adde this observation of *Misaldus*, that Boars flesh salted in powdering tubs, doth change both colour and taste, at that time of the year wherein the living Boars do rage upon their females: And thus much shall suffice to have spoken of Boars flesh.

Now in the next place we will proceed to talk concerning the hunting of Boars, which is not only a pastime for Lords and Princes, but also a necessary labour for meaner men; for as the harm that cometh by Boars is exceeding great, and so much the greater by how much he is poorer that doth sustain it, so the utility to learn the means of destroying this beast is more commodious; because the common proverb is more true in this then in the vulgar Swine, that they never do good till they are dead.

It is reported of *Diocletian*, when he was Agent for the Romans in France, there came an old Woman called *Dryas* unto him, and reproved him for his covetousnesse, telling him that he was over-sparing, and parsimonious; to whom he answered in jest, When I am Emperour I will be more liberall: *Dryas* replied unto him, *Noli jocare Diocletiane, nam Imperator eris cum Aprum occideris.* That is, Jest not, O *Diocletian*: for thou shalt be Emperour when thou hast killed *Aper*; (that was a Boar as he thought) and therefore he gave himself to the hunting of Boars, never sparing any time that was offered unto him, alwayes expecting the event of that speech; whereof he was frustrated untill he killed *Arius Aper*, the Governour of the Judgement Hall, and then afterwards being Emperour, he knew that the woman did not mean a Boar, but a man. Now therefore the hunting of Boars, and the manner of their taking is many wayes, either by violence in chase, or by policy in ditches and traps, or else by impoysoned baits. The best time of their hunting is in the midst of Winter, as some say; but I think the Winter is the worst time, because then they are strongest, and seeing all Swine are impatient of heat, the Summer will quickly end their life, if then they be chased. It behooveth therefore the Hunter of Boars to be very wary, and therefore the Ancients ordained that such a one should wear a rough garment of a brown colour, and likewise that his Horse should be of a yellow and fiery colour, and that the Boar-spear should be strong and sharp, for this beast is armed with a very strong head and skin, and besides they cover themselves with dried durt, as it were with a Coat of male to blunt the weapon, and therefore he runneth willingly either without dread or fear upon the Hunters. In which encounter, if he receiveth not a deadly wound, he overthroweth his adversary, except he fall flat on the ground, for the Boars teeth cannot cut upward, but downward; therefore if the Hunter be a foot-man, he must seat himself neer some tree, and then also provide that if he misse the Boar, he may easily climb into the boughs, and so save himself; but if the Swine that is raised be a female, she will all to tear and bite the Hunter with her teeth if she get him within her clutches: wherefore, for the more speedy ending of the hunting, it is good to raise the beast early in the morning, before he hath made water, for the burning of his bladder doth quickly make him weary.

But if the Boar have either made water before, or got liberty and rest in the chase to ease himself, then will his taking be very difficult and tedious, such is the nature of this courageous beast that he never ceaseth running till he be weary, and being wearied dissembleth the same by

sitting upon his buttocks, and offereth combat to his Hunter, and yet he is not wont to strike a man, untill he be wounded first by him. When the Boar is first raised out of the Wood, he snuffeth in the winde, lifting up his nose to smell what is with him, and what is against him.

The hunting Spear must be very sharp and broad, branching forth into certain forks or horns, so as by no means the Boar shall break through them upon the Hunter, and when he bendeth the same before the beast, he must stand with one leg before another like a Wrestler, holding his left hand upon the middle of the Spear to direct the same, and the right hand behinde, to thrust it forward with violence, having his eye intent upon the beast, and if it be a Boar to wound him in the middle of his forehead betwixt his eye-lids, or else upon the shoulder, for in both those places the wound is deadly; but if he chance to hit him on the cheek, the greatest harm that he doth him, is that he maketh him unfit to use his tusks: of this he must be very carefull that if the Boar leap upon him, he likewise must give back and draw out his sword; and if he chance to be overturned, then to lye down in some hollow place where the Boar cannot come at him with his teeth.

Now concerning the instruction of Dogs, and the choice of such Hounds as are appointed for the hunting of Boars, you must note, that every Dog is not fit for the same, but great mastives, such as are used for the baiting of Bears. For the Boar first of all terrifieth the Dog with his voyce, and if he be not ready to fight but to run away, then are the Hunters in worse case then at the beginning. Therefore they must be sure to have them well instructed before they give the onset, and be likewise at hand to encourage them. When they come first of all to the place wherein they conjecture the Boar is lodged, if there be no appearance either by his footsteps, or by the wounds of his teeth upon the trees and boughs, then let them let loose one of the best Hounds, and casting about the Wood, follow with the residue whither the crie goeth.

The Dog presseth into the thickest bushes where commonly the Boar lodgeth, and when he hath found the beast he standeth still and bayeth, then must the Hunter come and take up that Dog, for the Boar will not stir very easily out of his lodging, and go and set up his nets and toyls in all the by-places, whereby it is likely the beast will passe, and these must he hang to some trees, for postes in the earth will not suffice, alwayes making the inside of them very light, that the beast may suspect no harm. The nets being thus set up, let him return again to his Dogs, loosing them all; and every Hunter arming himself with darts and a Boars Spear, so let the moit skilfull follow the Dogs close to exhort them and set them on, the residue follow one after another a good distance, scattering themselves into sundry angles, for their better safeguard and end of their sport: for if they should come all together, the Boar might light upon them, and wound some of them, for upon whomsoever he falleth in his rage he hurteth them: furthermore when the Dogs begin to come neer to his lodging, then must they be set on more eagerly, and so heartned that they be no wayes appalled at the raising of the Boar, for his mannr is to make force at the foremost Dog that is neerest to him, so must he be followed in chase even unto the nets, but if the nets stand upon a side-hill, or a steep rock, then when he is insnared he will get out with no difficulty; but if it stand upon plain ground, the toyls will hold him till the Hunters come, who must presently take care to wound him with darts and spears before they meddle with him, compassing him round about very warily, so that he nor they hurt any of the Dogs, and especially they must wound him in the face or shoulders, where the wounds are mortall, as I have said before: but if it happen that the beast getteth loose when he feeleth the blowes, the Hunters must not start away, but the strongest of them to meet him with his spear, setting his body as we have formerly expressed, having an especiall eye to the beasts head, which way soever he windeth and turneth the same, for such is the nature of the Boar, sometimes he snatcheth the spear out of the Hunters hands, or else recoyleth the force back again upon the smiter, for by both these means the Hunter is overcome and overthrown: Whensoever this hapneth, then is there but one means to save the Hunters life, which is this; another of his companions must come and charge the Boar, making as though he would wound him with his dart, but not casting it for fear of hurting the Hunter under his feet. When the Boar seeth this, he forsaketh the first man, and rusheth upon the second, who must look to defend himself with all dexterity, composing his body, and ordering his weapons, according to artificiall Boar-hunting, and in the mean season the vanquished Hunter must arise again, taking fresh hold on his spear, and with all courage setting upon the adversary beast, to wound him either in the shoulders or in the head, for it is no credit to escape with life, except he kill and overcome the Boar.

When he feeleth himself thus wounded that he cannot live, if it were not for the crosses and forks upon the Boar-spear, he would presse in upon the vanquisher to take revenge for his death: For so great is the servent wrath of this beast, that he spareth not to kill and wound, although he feel upon him the pangs of death: and what place soever he biteth either upon Dog or man, the heat of his teeth inflicteth a dangerous inflaming wound: and for this cause if he doth but touch the hair of Dogs, he burneth it off: but if it be a female that is raised, (for there is as great a rage in females as in males, though not so great power) then must the Hunter take heed he never fall to the ground, for as the male hurteth not but when a man standeth or lieth high, so the female hurteth not but when a man falleth or lyeth low: therefore if the Hunter chance to fall, he must raise himself with all speed, using no lesse dexterity and courage against the female, then he doth against the male.

There is also another manner of hunting wilde Swine, which is this. First of all they set up their nets in all passages, through which it is likely the beast will go, then do the men and Dogs with a gallant crie, filling the woods and fields, raise them out of their lodgings. In the mean season setting some valiant Hunters to keep the nets. When the beast perceiveth that he is sought after, up he starteth, looking about him like an evil spirit, where he may devour, but being terrified with the crie of men, and pursued by a multitude of greedy Dogs, forth he runneth in some of his usuall wayes, carefully looking behinde him, to avoid the train that followeth, untill he fall fast enclosed into the Hunters nets, then cometh the keeper of the nets, and woundeth him with his Boar-spear, as I said before: but if it fortune that he fall out of the nets, or never cometh to them, then must they prosecute him, both men and Dogs, untill they have wearied him, for such is the heat of his body, that he cannot long stand, and although he shall lodge himself in some Marish or Woods where the Hunters can have no use of their nets, yet must they not be afraid to approach unto him, and with such hunting instruments as they have, shew the magnitude and courage of their minde, by attaining their game by the strength of hand, when they are deprived from the help of Art: And to conclude, the same devises, diligence, labour, prosecution, and observations, are to be used in the hunting of the Boar, which are prescribed for the hunting of the Hart. It seldome falleth out that the Pigs of wilde Swine are taken, for they run and hide themselves among the leaves, and in the Woods, seldome parting from their parents untill their death, and as we have said already, the dams fight for their young ones most irefully. For it is not with these as with the vulgar Swine, that they beat away their young ones from following them, but because they conceive but seldome, they suffer their Pigs to accompany them a whole year: And thus much for the violent and forcible hunting of Boars. Now followeth the artificiall devises and policies which have been invented for the same purpose, whereby to take them without pursuit of Dogs: And first of all, the same engins which we have prescribed for taking of the Hart, are also in use for taking of the Boar, and *Petrus Crescentiensis* sheweth how a multitude of Boars may be taken together in one ditch; and first of all (he saith) neer to the place where Boars make their abode, they sow in some plain fields a kinde of fattening corn which Hogs love, and about that field they make a high and strong hedge, of the boughs of trees in the one part, whereof they leave a great gap, yet not altogether down to the ground. At the time of the year when the grain waxeth ripe, the Boars gather thereinto in great number: now right over against the said gap on the other side, there is another little low place of the hedge left, over which the Swine may easily leap. When the watch-man hunter seeth the field full, he cometh alone and unarmed to the first gap, and therein he standeth lewring and making a terrible noise to affright the Swine; now on the other side where the hedge is left low, there is also made a vast and deep ditch, the Hogs being terrified with the presence and noise of the Hunter, and seeing him stand in the place of their entrance; run to and fro to seek another escape, and finding none, but that low place of the hedge before the ditch, over they presse headlong as fast as they can, and so fall into the trench one upon another. Again, neer *Rome* there be divers that watch in the woods, and in the night time when the Moon shineth, set up certain Iron instruments through which there glistereth fire, unto which the Boars and wilde Swine will approach, or at the leastwise stand still and gaze upon them, and in the mean season the Hunters which stand in secret come and kill them with their darts: and to conclude, in *Armenia*, there are certain black venomous fishes, which the inhabitants take and mixe with meal and cast them abroad where Boars and wilde Swine did haunt, by eating whereof as also Hemlock and Henbane, they are quickly poisoned, and die: And thus much we have shewed out of *Xenophon* and other Authors, the severall wayes of hunting and taking of wilde Swine.

Politick means
to take Boars.

Now so far as much as the hunting thereof hath been often shewed to be dangerous both to men and Dogs, I will a little adde some histories concerning the death of them, which have been killed by Boars. For if that cometh not to passe which *Martiall* writeth;

Men that have
perished by
Boars in hunt-
ing.

*Thusce glandis Aper populator, & ilice multa,
Impiger Etrole fama secunda fere,
Quem meus intravit splendenti cuspide culter,
Præda jaces nostris invidiosa focis.*

Ifay, if the Boar be not killed by men, the Hunter is constrained many times to say with *Lydia* in the same Poet,

Fulmineo spumantis apri sum dente perempta.

Apuleius reporteth of one *Leopolemus*, that he loved the wife of *Thrasillus*; now to the intent that he might possesse her, he took her husband abroad with him to the hunting of a Boar, that under colour thereof he might kill him, and say the Boar slew him: Being abroad, the nets raised, and the Dogs loosed, there appeared unto them a Boar of a monstrous shape, wonderfull fat, with horrible hair, a skin set with standing bristles, rough upon the back, and his mouth continually foaming out abundance of froath, and the sound of his gnashing teeth ringing like the ratling of armor; having fire-burning eyes, a despiteful look, a violent force, and every way fervent: he slew the noblest Dogs which first set upon him, not staying till they came to him, but he sought out for them, breaking their cheeks

and legs asunder, even as a Dog will do some small bones; then he trod down the nets in disdain, passing by them that offered him the first encounter, and yet remembering his own vigor and strength, turning back again upon them, first overthrowing them, and grinding them betwixt his teeth like Apples, at length he meets with *Thrasillus*, and first teareth his cloth from his back, and then likewise tore his body in pieces, and this man I remember in the first place to be killed by this monster-Boar, whether he was a beast or a man. *Martiall* in his book of spectacles remembreth a story of *Diana*, who killing of a wilde Sow with Pig, the young ones leaped out of her belly, and this I thought good to remember here, although it be somewhat out of place;

*Inter Casarea discrimina seva Dianæ,
Fixisset gravidam cum levis hasta suam;
Exiliit partus misera de vulnere matris,
O Lucina ferox, hoc peperisse fuit?*

Anceus the father of *Agapenor* was killed by the *Calidonian* Boar, as we have said already. *Carmion* was slain by a Boar in the mountain *Tmolus*. There was one *Attas* a Syrian, and another an *Arcadian*, and both these were slain by Boars, as *Plutarch* writeth in the life of *Sertorius*. It is reported of one *Attes* a Phrygian, that as he kept his Sheep he did continually sing songs in commendation of the mother of the Gods, for which cause she loved him, honoured him, and often appeared unto him; whereupon *Jupiter* fell to be offended, and therefore sent a Boar to kill *Attes*. *Rea* after his death lamented him, and caused him to be buried honourably. The *Phrygians* in his remembrance did every year in the spring time lament and bewail him.

Adonis also, the Leman of *Venus*, is fained of the Poets to be killed by a Boar: and yet *Macrobius* saith, that it is an allegory of the Sun and the Winter, for *Adonis* signifieth the Sun, and the Boar the Winter: for as the Boar is a rough and sharp beast, living in moyst cold, and places covered with frost, and doth properly live upon winter fruits, as Acorns, so he is the fitter emblem for Winter, that is, a devourer of the Suns heat and warmth, both which fall away by death from all living creatures. When *Tenthra* a King of *Mysia* went to hunt in the mountain *Thrasillus*, he started a huge great Boar, which he and his guard followed and hunted unto the Temple of *Diana Orthosia*, whereinto the Boar entred for sanctuary.

The poor beast seeing the Hunters at hand, cryed out with the voice of a man: *Parce & rex pecudæ Deæ*, O King spare *Dianaes* Boar: But the king being nothing at all moved therewith, slew him in the Temple; which wickednesse the Goddess could not endure, and therefore first of all she restored the Boar to life, and afterwards afflicted the King with madnesse, who was therefore driven into the Mountains, and there lived like a beast.

When *Lysippe* his mother knew hereof, she went to him into the Woods, and carryed *Cyranine* the Prophet, who instructed him to pacifie the Gods by a sacrifice of Oxen, which when it was performed, the King recovered again his right minde; and so his mother in remembrance thereof, built there a Chappell to *Diana*, and set thereupon the picture of a Boar in Gold, with a mans mouth. There was also a custome in ancient time for champions and their fathers brethren and kindred to swear by a Boar cut in pieces. And thus much for the naturall and morall story of the Boar, which I will conclude with those verses of *Horace*, describing the prodigious habitation of Boars in the waters, and *Dolphins* in the Woods, as if one had changed with another;

*Delphinum silvis appingit, fluctibus aprum,
Qui variare cupit rem prodigialiter unam.*

The Medicines of the wilde Swine.

There are declared a M. things concerning the remedies of Goats, but a larger and more ample power shal be shewn of a wilde beast of the same kinde. Also the same regard shall be had concerning the remedies of a tame Sow and a wilde Boar, yea, of all other tame and wilde beasts, that is, that the same or things like to either of them may be ended, differing only according to more or lesse, because the same parts of wilde beasts living, are lesse moyst and cold then those that are tame. That which we repeat here concerning the common remedies of a Boar and Sow tamed, in some of the parts of them, to wit, the blood, the brain, the cheek-bone, the lungs or lights, the liver, the gall, the ankle bone, the hoof, the dung, and urine, is not in the Sow repeated before.

The brains of a Boar taken with blood, is very much commended against the bitings of Serpents. Again, the brains and blood of a Boar, doth help those that fear the coming of Carbuncles. The lard and fat of a Boar being sodden and bound fast together, doth with a wonderfull celerity make firm those bones that are broken. The fat of a Boar mingled with Hony and Rozin, is very much commended against the bitings of Serpents.

The fat of a wilde Boar mingled with the fat of the lungs or lights, doth very much profit those which have their feet broken or bruised by any mischance. The fat of a Boar being mixed with Oyl of Roses, is very good for those that are troubled with blisters or pusses, it being anointed thereupon. The brains of a Boar is very profitable for Carbuncles, and the pains of a mans yard. The brains of a Boar being bruised very small in Hony, and put thereto, doth wonder-

wonderfully make it sound. The brains of a Boar sodden and drunk in wine, doth ease all the pains and griefs. There are more things spoken concerning the remedies of the brain in the medicines of the Sow. The ashes of the cheek-bone of a Boar doth cure those ulcers which do encrease bigger by little and little.

Also the same thing doth make firm those bones that are broken. The lungs or lights of a Boar mixed with hony, and put upon the feet after the manner of a mollifying emplaister, they shall be freed from all exulcerations. *Dioscorides* also doth commend the lungs or lights of Sows, Lambs, and Bears. The liver of a Boar being new killed and scorched by a fire, and beaten to powder, and so being taken in wine, is an especiall remedy against the bitings of Serpents and Dogs. The liver of a Boar being old, and drunken in wine with Rue, is very much commended against the bitings of Serpents. The Fibres of the liver of a Boar, and those especially which are neere to the entrance of the gall and liver, being taken in Vinegar or rather wine, is much profitable against the bitings of Serpents.

The liver of a Boar is good to revive those whose spirits are drowfie. The liver of a Boar doth much profit, being stopped in the ears, for those that are troubled with Apostumes or any running sores therein. The liver of a Boar being new killed and drunken in wine is very effectually against the loosenesse of the belly. There are certain little stones in the liver of a Boar, as there is in a common or vulgar Sow, or at leastwise like unto little stones, and they are also white, which being sodden and taken in wine, are very effectually against the disease of the Stone. Thou shalt read many more things concerning the remedies of the liver of a Boar in the medicines of the Sow. The gall of a Boar is very much commended for Wennes or swellings in the neck.

The gall of a Boar being mingled with Rosin and Wax, doth cure those ulcers which do encrease bigger and bigger. The gall of a Boar, and Lambs milk, being mingled together, and dropped in the ears, is very profitable for all pains therein. The body of a man being anointed with the gall of a Boar, doth stirre him up to carnal copulation. The gall of a Boar being mingled with sewer and applyed upon every joynt of the body, doth immediately cure all pains of the Gowt. We have declared also many things in the medicines of the Sow, concerning the remedies of the gall of a Boar. The stones of a Boar being eaten is very good against the Falling sicknesse, or the stones of a Boar being taken in Mares milk or water, is also very effectual against the same disease. The hoofs of a Boar being burned to ashes, and sprinkled upon drink, and so taken, doth very much help those that cannot easily make water.

The hooves of a Boar being burned and beaten to powder, and given in drink, is very effectual against the stopping of urine. The hooves of a Boar or Sow being burned, and given to drink in wine, is very much commended for those that cannot hold their urine in their sleep. The dung of a Sow (which liveth in the Woods) being dried and drunk in water and wine, doth stay the voiding of blood, and doth ease also old pains of the sides: And again being taken in Vinegar, it doth stay all ruptures and convulsions, and also being mingled with the syrup of Roses, it doth remedy or help those places which are out of joynt.

The dung of a Boar being new made, and hot, is a speciall remedy against the flux of blood which issueth forth of the Nostrils. The dung of a Boar being mingled in wine, and applyed after the form of an emplaister, do presently draw away and make sound any thing which cleaveth to the body. It being also bruised and sodden with hony, and afterwards kneaded like Dough, and so applyed to the joynts, doth ease all pains that arise therein.

An emplaister made of the dung of a Boar, is very profitable against all venemous bitings, for it draweth forth the poyson. All other ulcers are filled up and cleansed with the dung of a Boar, except those which arise in the thighs. The dung of a Boar dried and beaten to powder, and sprinkled upon drink, doth cure all pains of the sides. Again, it being dried and beaten to powder, and administred in wine, doth not only cure the pain in the Spleen, but also the pain in the kidneys. The dung of a Boar being burned to the ashes, and given to drink in wine, doth ease all pains in the knees and legs. The dung of a Boar new made and anoynted upon those places that are out of joynt, is very profitable for them. The dung of a field-boar mixed with brimstone, and taken in wine, and strained Pitch, is very commendable for pains in the hips. The dung of a Boar being mingled with wine, and afterwards strained, and given to drink, about the measure of two little cupfuls at a time, doth speedily help those which are troubled with the Sciatica.

It also being sodden in Vinegar and Hony, doth mitigate all pains that rise in the feet or ankles. The dung of a Boar burned to ashes, and sprinkled upon wine luke-warm, and so given to drink, doth help all those that are troubled with the bloody-flux. The rest of the remedies which concern the dung of a Boar, thou shalt find in the medicines of the Sow. The urine of a Boar mingled with Hony and water, and so taken, is a speciall remedy for those that are troubled with the Falling sicknesse.

Again, the urine of a Boar being taken in sweet Vinegar, doth drive out those things which are dried in the bladder. The urine of a Boar being kept in a glasse, doth cure all diseases and pains in the ears, but it is especially profitable for those which cannot hear. The urine of a Boar being kept in a glasse, and made luke-warm, and dropped into the ears, is a speciall remedy for all Apostumes that are therein. The urine of a Boar which is kept long, is far more profitable, if so be that it be kept in a vessel of glasse. Again, the urine of a Boar, being dried in smok, and moistened with Hony, and so powred into the ears, doth cure the deafnesse of the ears.

The urine of a Boar, and Oyl of Cypresse, each of them being equally mingled, and made luke-warm, is also good for the same disease.

Sextus.

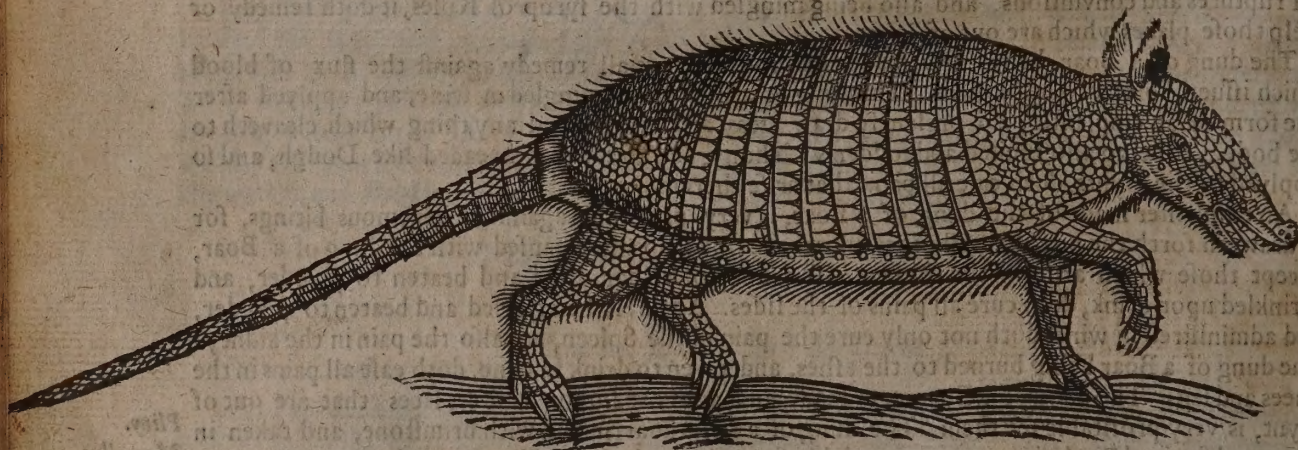
The urine of a wilde Boar also is of the same force and vertue. The bladder of a wilde Boar doth stay the incontineny of the urine, if it be eaten, roasted, or boyled. The bladder of a Goat being burned to powder, and given to drink in water and wine, is very good and profitable for those which cannot make water easily. The urine of a Boar being drunken, doth help those that are troubled with the stone in the bladder, but it is more effectuell if it be first of all mingled with the dung. The Bladder of a Boar moistened with the urine, and hung up untill the waterish humor cometh forth, and then boyled and given to those which are truculent with the Strangury, is very profitable and good for them.

The Bladder of a Boar being dried and given in drink, is very profitable for those which are troubled with pains in the bladder and wringings of the guts. The urine of a tame Boar hung up in the smoak in the bladder of a Sow, and mixed with drink, is very profitable for those that are troubled with the Strangury. The urine of a Boar, or at least wise the bladder being given in drink, hath cured those which have been troubled with the Hydropsy as some do say. The urine of a Boar being taken in drink, is very good for those that are troubled with the Stone.

Marcellus.

Now forasmuch also as Hunters are hurt by some, I thought it good to set down what remedies is fit for them. Therefore the wounds made of them are dangerous, because they are not only deep, but also large and great, and it is also impossible to bring them to a glutination with medicines, for the lips of the wounds which is made by contusion, are cut off and burned. They use a mutuall gnashing and striking of their teeth together, as it were against a whetstone, to take revenge upon those which pursue and follow them. Therefore they cause a certain scab to grow upon the lips of the wound, wherefore it is meet to use a suppurative and not a glutinative manner of cure in them. It is meet to use in running and moist ulcers, not hot things, but cold, both in Winter and Summer. For it is an easie matter for a Boar to hurt a Horse in the inside of his knee, in the time of his hunting, which doth breed to a waterish ulcer, and there doth also follow a swelling. To this cold things are to be applyed, and it is to be cured by anointing it with a medicine which is called *Diachalcantes*, or the head of a Dog, being burned about the tongue, and beaten into powder, and so to be applyed after the manner of a Cataplasme. And thus much concerning the medicines of the Boar.

Of the *TATU*s, or *Guinean* Beast.



THis is a four-footed strange Beast, which *Bellonius* saith, he found in *Turcbia*, among the Mountebanks and Apothecaries. It is brought for the most part out of the new-found world, and out of *Guinea*, and therefore may be safely conveyed into these parts, because it is naturally covered with a hard shell, divided and interlined like the fins of fishes, outwardly seeming buckled to the back like Coat-armor, within which the beast draweth up his body, as a Hedge-hog doth within his prickled skin; and therefore I take it to be a *Brasilian* Hedge-hog. It is not much greater then a little Pig, and by the snout, ears, legs, and feet thereof, it seemeth to be of that kind, saving that the snout is a little broader, and shorter then a Pigs, and the tail very long like a Lizards or Rats, and the same covered all over with a crust or shell. The gaping of the mouth is wider then a Swines; and one of these being brought into *France*, did live upon the eating of seeds, and fruits of the Gardens, but it appeareth by that picture, or rather the skin stuffed, which *Adrianus Marcellus* the Apothecary

the cary of *Ulmes*, sent unto *Gesner*, from whence this picture here expressed was taken, that the feet thereof are not cloven into two parts like Swine, but rather into many like Dogs, for upon the hinder feet there are five toes, and upon the fore feet four, whereof two are so small that they are scarce visible. The breadth of that same skin was about seven fingers, and the length of it two spans, the shell or crust upon the back of it did not reach down unto the rump or tail, but broke off as it were upon the hips, some four fingers from the tail. The Merchants as I have heard, and Citizens of London keep of these with their Garden worms.

Of the *AIOCHTOCHTH*.

There is another beast that may be compared to this, (whereof *Cardanus* writeth) and he calleth the name of it *Aiotochth*. It is a strange creature found in *Hispania Nova*, neer the River *Alvaradus*, being not greater then a Cat, having the bill or snout of a Mallard, the feet of a Hedge-hog, and a very long neck. It is covered all over with a shell like the trappings of a Horse divided as in a Lobster, and not continued as in an Oyster; and so covered herewith, that neither the neck nor head appear plainly, but only the ears; and the *Spaniards* for this cause call it *Armatto*, and *Contexto*: There be some do affirm that it hath a voice like a Swine, but the feet thereof are not indeed so cloven, that they remain unequal, but are like to a Horses, I mean the severall cloves. There are of these as I have heard to be seen in Gardens in London, which are kept to destroy the Garden worms.

Of the TIGER.



THE word *Tigris* is an *Armenian* word, which signifieth both a swift Arrow, and a great River, and it should seem that the name of the River *Tigris* was therefore so called, because of the swiftnesse thereof; and it seemeth to be derived from the *Hebrew* word *Gir* and *Griera*, which signifie a Dart. *Munster* also in his Dictionary of three languages, doth interpret *Tigros* for a Tiger. In the 4. of *Job* the word *Laisk* by the *Septuagints* is translated *Murmelion*, and by *S. Jerom*, *Tigris*. The *Jewes* call the same beast *Phoradei*, which the *Grecians* call *Tigris*; and all the people of *Europe*, to whom this beast is a stranger, call it after the *Greek* name, as the *Italians*, *Tigre* and *Tigra*, the *French* *Un Tigre*, and the *Germans* *Tigertier*.

Now concerning the name of the River *Tigris*, which because it joyneth in affinity with this beast, *Tigris*.

The names of
Tigers.

Of the River
beast, *Tigris*.

beast, it is necessary that I should say something in this place, because that we finde in holy Scripture that it is one of the four Rivers which runneth through Paradise; which according to *Josephus*, maketh many compasses and windings in the world, and at last faileth into the Red sea; and they further say, that there is no River of the world that runneth so swiftly as this: And therefore *Tigris* vocatur, id est *Sagitta*, quod *jaculum* vel *sagittam* velocitate aequet: That is, it is called a Tiger, a Dart, or Arrow, because it runneth as fast as an Arrow flyeth: and for this cause we finde in *The crimus*, that a River in *Sicilia* was called *Acis*, that is, *Spiculum*, a Dart.

Some of the Poets do derive the name of the River *Tigris* from this Tiger the wilde beast, whereupon these Histories are told. They say, that when *Bacchus* was distracted, and put out of his wits by *Juno*, as he wandered to and fro in the world, he came to the River *Sylax* (which was the first name of this water) and being there desirous to pass over, but found no means to accomplish it, *Jupiter* in commiseration of his estate did send unto him a Tiger, who did willingly take him upon his back, and carry him over; Afterward *Bacchus* called that swift River by the name of that swift beast, Tiger. Others do report the tale thus. When *Dionysius* fell in love with the Nymph *Alpheisibaea*, whom by no means either by promises, intreaties or rewards he could allure unto him, at last he turned himself into a Tiger, and so oppressing the Nymph through fear, did carry her over that River, and there begot upon her his son *Medus*, who when he came to age, remembering the fact of his father and mother, called the name of the River *Tigris*, because of his Fathers transformation. But to leave this matter as not worth the standing upon, whether the River was called after the name of the beast, or the beast after the name of the River, or rather both of them after the name of the dart or swift Arrow, we will proceed to the natural story of the Tiger, commending that to the Readers judgement which is essential to this story, containing in it necessary learning, and garnished with all probability.

Countries
breeding Ti-
gers.

First of all therefore, Tigers like Lyons are bred in the East, South, and hot Countries, because their generation desireth abundance of heat, such as are in *India*, and near the Red sea, and the people called *Asange*, or *Besingi*, which dwell beyond the River *Ganges*, are much troubled and annoyed with Tigers. Likewise the *Prasians*, the *Hyrceanians*, and the *Armenians*. *Apollonius* with his companions travelling betwixt *Hiphasis* and *Ganges*, saw many Tigers. In *Berigaza* and *Dachinabades*, which is beyond the *Mediterranean* Region of the East, there are abundance of Tigers, and all other wilde beasts, as *Arrianus* writeth. In *Hispaniola*, *Ciamba*, and *Guanassa*, *Peter Martyr* saith, by the relation of a *Spaniard* inhabiting there, that there are many Lyons and Tigers.

Quantity of
Tigers.

The *Indians* say, that a Tiger is bigger then the greatest Horse, and that for strength and swiftness they excel all other beasts. There be some which have taken them for Tigers, which are called *Thoes*, greater then Lyons, and lesser then the *Indian* Tigers, as it were twice so big as Lyons; but I rather agree to the relation of *Arrianus*, *Strabo*, *Megasthenes*, and *Mearcus*; for they say that a Tiger feareth not an Elephant, and that one of them hath been seen to fly upon the head of an Elephant, and devour it: and that among the *Prasians*, when four men led one of these Tigers tamed, by the way they met with a Mule, and that the Tiger took the Mule by the hinder leg, drawing him after him in his teeth, notwithstanding all the force of the Mule and his four leaders; which is unto me a sufficient argument not only of his strength, but of his stature also: and if any have been seen of lesser stature, they have been mistaken either for the *Linxes*, or for the *Thoes*.

The several
parts.

The similitude of the body of this beast is like to a *Lionesses*, for so is the face and the mouth; the lower part of the fore-head, and gnashing or grinning teeth, and all kinde of creatures which are ravening, are footed like a Cat, their neck short, and their skins full of spots, not round like a Panther, nor yet divers coloured, but altogether of one colour and square, and sometimes long, and therefore this beast and the Panther are of singular note among all the four-footed; yet *Solinus* and *Seneca* seem to be of opinion that their spots are sometimes of divers colours, both yellow and black, and those long like rods in these sayings:

Tibi dant varia pectora Tigres.

And again:

Uera virgata fere Caspie.

And *Silius* saith:

Corpore virgato Tigris.

Oppianus.

It were needless to speak of their crooked claws, their sharp teeth, and divided feet, their long tail, agility of body, and wildeness of nature which getteth all their food by hunting. It hath been falsely believed, that all Tigers be females, and that there are no males among them, and that they engender in copulation with the winde; whereupon *Camerarius* made this witty riddle in his Rhetorical exercises:

*A fluvio dicor, fluuius vel dicitur ex me,
Junctaq; sum vento, vento velocior ipso,
Et mihi dat ventus natos, nec quero maritos.*

The Epithets:

The Epithets of this beasts are these: *Armenian* Tigers, sharp, *Ganietican*, *Hyrceanian*, fierce, cruel,

cruel, and wicked, untamed, spotted, divers coloured, straked, bitter, ravenous, *African*, greedy, *Caspian*, *Carcesian*, *Caucasean*, *Indian*, *Parthian*, *Marsian*, straight-footed, mad, stiffe, fearful, strong, foaming, and violent, with many such others, as are easie to be found in every Author. The voice of this beast is called *Ranking*, according to this verse:

Tigrides indomita rancant, rugiantq; Leones.

Now because that they are strangers in *Europe*, as we have said already, never breeding in that part of the world, and as seldom seen, we must be constrained to make but a short story of it, because there are not many divers things concerning the nature of it, and in the Physick none at all. For the manner of their food, they prey upon all the greatest beasts, and seldom upon the smaller, as Oxen, Harts, and Sheep, but Hares and Conies they let alone. Their food.

It is reported by *Plutarch*, of a tame Tiger that was brought up with a Kid, the said Kid was killed and laid before him to eat, but he refused it two days together, and the third day oppressed with extremity of hunger, by her ranking and crying voice she made signes to her Keeper for other meat, who cast unto her a cat, which presently it pulled in pieces and devoured it. The like story unto this we have shewed already in the Panther. Generally the nature of this beast, is according to the Epithites of it, sharp, untamed, cruel, and ravenous, never so tamed, but sometimes they return to their former natures; yet the *Indians* do every year give unto their King tamed Tigers and Panthers, and so it cometh to pass, that sometimes the Tiger kisseth his Keeper as *Seneca* writeth. A history.

In the time of their lust they are very raging and furious, according to these Verses of *Virgil*:

*Per sylvas tum saevus aper, tum pessima Tigris,
Heu male cum Libya solis erratur in agris.*

They ingender as Lions do, and therefore I marvel how the fable first came up, that they were all females & had no males among them, and that the females conceived with young by the West wind. We have shewed already in the story of the Dogs, that the *Indian* Dog is engendered of a Tiger and a Dog, and so also the *Hircanian* Dogs: Whereby it is apparent, that they do not only conceive among themselves, but also in a mingled race. The male is seldom taken, because at the sight of a man he runneth away, and leaveth the female alone with her young ones, for he hath no care of the whelps, and for this occasion I think that the fables first came up that there were no males among the Tigers. The female bringeth forth many at once like a Bitch, which she nourisheth in her den very carefully, loving them, and defending them like a Lioness from the Hunters, whereby she is many times ensnared and taken. It is repoted by *Aelianus*, that when they hear the sound of Bells and Timbrels, they grow into such a rage and madness, that they tear their own flesh from their backs. Their copulation and generation.

For the taking of Tigers, the *Indians* near the River *Ganges* have a certain herb growing like *Bugloss*, which they take and press the juyce out of it, this they preserve beside them, and in still silent nights, they pour the same down at the mouth of the Tigers den, by vertue whereof it is said, the Tigers are continually enclosed, not daring to come out over it through some secret opposition; are not, but famish and dye, howling in their caves through intolerable hunger. So great is the swiftness of this beast, as we have shewed already, that some have dreamed it was conceived by the wind, as the swiftest Horses, and namely the Horses of *Dardanus*, are likewise fabled to be begotten of the Northern winde, so the Tigers by the West winde. The taking and killing of Tigers. Plutarch. Calisthenes.

There are they are never taken but in defence of their young ones, neither is there any beast that liveth upon preying so swift as they: *Solan Tigrim Indis insuperabilem esse dicunt, quoniam fugiendi celeritate, quae ventos aequare dicitur, e conspectu aufugit.* Only the Tiger, the *Indians* say can never be conquered, because when he is hunted he runneth away out of sight as fast as the winde. For this cause they diligently seek out the caves and dens of the Tigers where their young ones are lodged, and then upon some swift Horses they take and carry them away: when the female Tiger returneth and findeth her den empty, in rage she followeth after them by the foot, whom she quickly overtaketh, by reason of her celerity. Philostratus.

The Hunter seeing her at hand, casteth down one of her Whelps: the distressed angry beast knowing that she can carry but one at once, first taketh up that in her mouth, without setting upon the Hunter, contented with that one, returneth with it to her lodging; having laid it up safe, back again she returned like the wind, to pursue the Hunter for the residue, who must likewise set her down another, if he have not got into his ship, for except the hunter be near the water side, and have a ship ready, she will fetch them all from him, one by one, or else it will cost him his life: therefore that enterprise is undertaken in vain upon the swiftest Horses in the world, except the waters come betwixt the Hunter and the Tiger: And the manner of this beast is, when she seeth that her young ones are shipped away, and she for ever deprived of seeing or having them again, she maketh so great lamentation upon the Sea shore howling, braying and racking, that many times she dyeth in the same place, but if she recover all her young ones again from the Hunters, she departeth with unspeakable joy, without taking any revenge for their offered injury.

For this occasion, the Hunters do devise certain round spears of glass, wherein they picture their young ones very apparent to be seen by the dam, one of these they cast down before her at her approach, she looking upon it, is deluded, and thinketh that her young ones are inclosed therein, and the rather, because through the roundness thereof it is apt to rowl and stir at every touch, this she driveth along backwards to her den, and there breaketh it with her feet & nails, and so seeing she that is deceived, returneth back again after the Hunters for her true Whelps; whilest they in the mean season are safely harbored in some house, or else gone on some shipboard. It is reported by *Johannes Ledesma a Spaniard*, this excellent story of a male and female Tiger. In the Island *Dariene*, standing in the Occidental Ocean of the New-found World, some eight days sail from *Hispaniola*, it fell out (saith he) in the year of our Lord 1514. that the said Island was annoyed with two Tigers, a male and a female, for half a year together, so that there was no night free, but they lost some of their cattel, either a Horse, or an Ox, or a Cow, or a Mare, or a Hog, and Swine, and in the time that their young ones did suck, it was not safe for men to go abroad in the day time, much less in the night; but they devoured a man, if they did not first of all meet with another beast: At length the Countrey thus oppressed, necessity constrained them to devise a remedy, and to try some means to mitigate their calamities, wherefore they sought out all the ways and paths of the Tigers to and from their dens, that so they might take vengeance upon the raveners for the loss of so much blood: At the last they found a common beaten way, this they cut afunder and digged deep into a large dungeon: having made the dungeon, they strewed upon the top of it little sticks and leaves, so covering it to dissemble that which was underneath, then came the heedless Tiger that way, and fell down into the ditch upon such sharp Iron flakes, and pointed instruments as they had there set, with his roaring he filled all the places thereabout, and the Mountain sounded with the echo of his roaring voice.

The people came upon him, and casting great and huge stones upon his back killed him, but first of all, he broke into a thousand pieces, both the stones, Weapons, and Spears, that were cast against him; and so great was his fury, that when he was half dead, and the blood run out of his body, he terrified the standers by beholding and looking upon him. The male Tiger being thus killed, they followed the footsteps into the Mountains where the female was lodged, and there in her absence took away two of her young ones, yet afterward changing their mindes, carryed them back again, putting upon them two brazen collers and chains, and making them fast in the same den, that so when they had sucked till they were greater, they might be with pleasure and safety conveyed into Spain. At last when the time appointed was come that they should be taken forth to be sent away, the people went to the den, wherein they found neither young nor old, but their collers fastened in the same place that they had left them, whereby it was conceived that the envious mother had killed and torn her young ones in pieces, rather then they should fall into the hands of the hunters; so that this beastly love of hers, ended in horrible cruelty, and for this occasion is it that *Medea* thus speaketh in *Ovid*;

*Hoc ego si patiar, tum me de Tigride natam,
Tum ferrum & scopulos gestare in corde videbor.*

And for this cause it was faigned, not without singular wit by the Poets, that such persons, who are full of the fulness of their wrath in extremity of revenge, are transformed into Tigers. The Poet compareth the wrath of *Perseus* standing betwixt two advantages unto a Tiger betwixt herds of cattel, being in doubt whether of them to devour, in this manner;

*Tigris ut auditis diversa valle duorum,
Extimulata fame, mugitibus armentorum,
Nescit utro potius ruat, & ruere ardet utroq;
Sic dubius Perseus dextra levare feratur.*

In ancient times these Tigers were dedicated to *Bacchus*, as all spotted beasts were, and that the said Tigers did draw his Charriot whilest he did hold the reins; and therefore *Ovid* saith thus;

*Bacchus in curru quem summum texerat uvis,
Tigribus adjunctis aurea lora dabat.*

And *Horace* in this manner;

*Hac te merentem Bacche pater tuæ
Vexere Tigres indocili jugum collo trabentes.*

Tigers, notwithstanding their great mindes and untamable wildeness, have been taken, and brought in publike spectacle by men, and the first of all that ever brought them to Rome, was *Augustus*, when *Quintus Tubero*, and *Fabius Maximus* were Consuls, at the dedication of the Theater of *Marcellus*; the which Tigers were sent unto him out of *India*, for presents (as *Dion* writeth.) Afterwards *Claudius* presented four to the people; and lastly *Heliogabalus* caused his chariots to be drawn with Tigers, whereunto *Martial* alluded when he said;

*Piſto quod juga, delicata collo,
Pardus ſuſtinet, improbaq; Tigres;
Indulgent patientiam flagello.*

Ledeſma of whom we ſpoke before affirmeth, that he did eat of the Tigers fleſh that was taken in the ditch in the *Iſland Dariene*, and that the fleſh thereof was nothing inferior to the fleſh of an Ox, but the *Indians* are forbidden by the laws of their Countrey, to eat any part of the Tigers fleſh, except the hanches. And thus I will conclude this ſtory of the Tiger, with the Epigram that *Martial* made of a Tiger, devouring of a Lion.

Eating of Tigers.

*Lambere ſecuri dextram & conſueta magiſtri,
Tibris ab Hyrcano gloria rara iugo,
Sava ferum rabido laceravit dente Leonem:*

*Res nova, non ullis cognita temporibus.
Auſa eſt tale nihil ſylvæ dum vixit in altis:
Poſtquam inter nos eſt, pluſferitatis habet.*

Of the UNICORN.



WE are now come to the hiſtory of a Beaſt, whereof divers people in every age of the world have made great queſtion, becauſe of the rare vertues thereof; therefore it behoveth us to uſe ſome diligence in comparing together the ſeveral teſtimonies that are ſpoken of this beaſt, for the better ſatiſfaction of ſuch as are now alive, and clearing of the point for them that ſhall be born hereafter, whether there be a Unicorn; for that is the main queſtion to be reſolved.

Now the vertues of the horn, of which we will make a particular diſcourſe by it ſelf, have been the occaſion of this queſtion, and that which doth give the moſt evident teſtimony unto all men that have ever ſeen it or uſed it, hath bred all the contention; and if there had not been diſcloſed in it any extraordinary powers and vertues, we ſhould as eaſily believe that there was a Unicorn in the world, as we do believe there is an Elephant although not bred in *Europe*. To begin therefore with this diſcourſe, by the Unicorn we do underſtand a peculiar beaſt, which hath naturally but one horn, and that a very rich one, that groweth out of the middle of the forehead, for we have ſhewed in other parts of the hiſtory, that there are divers beaſts, that have but one horn, and namely ſome Oxen in *India* have but one horn, and ſome have three, and whole hoofs. Likewise the Bulls of *Aonia*, are ſaid to have whole hoofs and one horn, growing out of the middle of their fore-heads.

Many beaſts with horns, improperly called Unicorns.
Solinus.
Ælianus.
Oppianus.

Likewiſe in the City *Zeila* of *Æthiopia*, there are Kine of a purple colour, as *Ludovius Romanus* writeth, which have but one horn growing out of their heads, and that turneth up towards their backs. *Cæſar* was of opinion that the Elk had but one horn, but we have ſhewed the contrary. It is ſaid that *Pericles* had a Ram with one horn, but that was bred by way of prodigy, and not naturally. *Simeon Sethi* writeth, that the Musk-cat hath alſo one horn growing out of the fore-head, but we have ſhewed already that no man is of that opinion beſide himſelf. *Ælianus* writeth, that there be Birds in *Æthiopia* having one horn on their fore-heads, and therefore are called *Unicornes*: and *Albertus* ſaith, there is a fiſh called *Monoceros*, and hath alſo one horn. Now our diſcourſe of the Unicorn is of none of theſe beaſts, for there is not any vertue attributed to their horns, and

Whether there
be any Uni-
corns in the
World.

and therefore the vulgar sort of Infidel people which scarcely believe any herb but such as they see in their own Gardens, or any beast but such as is in their own flocks, or any knowledge but such as is bred in their own brains, or any birds which are not hatched in their own nests, have never made question of these, but of the true Unicorn, whereof there were more proofs in the world, because of the nobleness of his horn, they have ever been in doubt: by which distraction it appeareth unto me that there is some secret enemy in the inward degenerate nature of man, which continually blindeth the eyes of God his people, from beholding and believing the greatness of God his works.

But to the purpose, that there is such a beast, the Scripture it self witnesseth, for David thus speaketh in the 92. Psalm: *Et erigetur cornu meum tanquam Monocerotis.* That is, my horn shall be lifted up like the horn of a Unicorn; whereupon all Divines that ever wrote, have not only collected that there is a Unicorn, but also affirm the similitude to be betwixt the Kingdom of David and the horn of the Unicorn, that as the horn of the Unicorn is wholesome to all beasts and creatures, so should the Kingdom of David be in the generation of Christ; And do we think that David would compare the virtue of his Kingdom, and the powerful redemption of the world unto a thing that is not, or is uncertain or fantastical, God forbid that ever any man should so despight the holy Ghost. For this cause also we read in *Suidas*, that good men which worship God and follow his laws are compared to Unicorns, whose greater parts as their whole bodies are unprofitable and untamable, yet their horn maketh them excellent: so in good men, although their fleshy parts be good for nothing, and fall down to the earth, yet their grace and piety exalteth their souls to the heavens.

The Hebrew
names in Scri-
pture prove
Unicorns.

We have shewed already in the story of the Rhinocerot, that *Reem* in Hebrew signifieth a Unicorn, although *Munster* be of another opinion, yet the Septuagints in the translation of Deut. 33. do translate it a Unicorn, for the Rhinocerot hath not one horn, but two. *Rabbi Solomon, David Kimhi*, and *Saadius* do always take *Reem* and *Karas* for a Unicorn, and they derive *Reem* from *Rom*, which signifieth *Altitudinem*, height, because the horn of the Unicorn is lifted up on high. Hereunto the *Arabians* agree, which call it *Barkeron*; and the *Persians*, *Bark*; the *Chaldeans*, *Remana*. In the 39. of Job, the Lord speaketh in this manner to Job: *Numquid acquiescet Monoceros ut serviat tibi, aut ut moretur juxta praecepta tua? Numquid ligabis Monocerotem fune suo pro sulco faciendo, aut complanabit glebas vallium post te?* That is to say, will the Unicorn rest and serve thee, or tarry beside thy cratches? Canst thou binde the Unicorn with a halter to thy plough to make furrows, or will he make plain the clots of the Vallies? Likewise in the prophesie of *Esa.* the 34. chap. and in many other places of Scripture, whereby God himself must needs be traduced, if there be no Unicorn in the world.

The kinds of
Unicorns.

Besides the *Arabians*, as *And Bellun* writeth, call this beast *Alcherceden*, and say that it hath one horn in the fore-head which is good against poysons. The *Grecians* call it *Monokeros*, from whence *Pliny* and all the ancient *Grammarians* do call it *Monoceros*, yet the divines both elder and later do name it by a more learned proper Latine word *Unicornis*. The *Italians*, *Alicorno*, *Unicorno*, *Liocorno*, *Leocorno*; the *French*, *Licorne*; the *Spaniards*, *Unicorno*; the *Germans*, *Einhorne*; and the *Illyrians*, *Gednorozecz*: And thus much for the name. All our *European Authors* which write of beasts, do make of the Unicorn divers kinds, especially *Pliny*, *Ludovicus Romanus*, *Paulus Venetus*, *Nicholaus Venetus*, *Aeneas Sylvius*, *Albertus Magnus*, out of whose words we must gather the best description that we can of the Unicorn. The *Arcean Indians* (saith *Pliny*) do hunt a certain wilde beast which is very curst, untamable, having one horn, which in the head resembleth a Hart, in the feet an Elephant, in the tail a Boar, and in the residue of the body a Horse; the horn he saith, is about two cubits long, and the voice like the lowing of an Ox, somewhat more shrill, and they deny that this beast is ever taken alive. *Aelianus* writeth hereof in this manner, there are (saith he) certain Mountains in the midst of *India*, unto the which the passage is very difficult, where are abundance of wilde beasts, and among other Unicorns, which the *Indians* call *Cartazonens*, who in their ripe age are as big as a Horse, and their mane and hairs are yellow, excelling in the celerity of their feet and bodies, having feet cloven like an Elephants, the tail of a Boar, and one black horn growing out betwixt their eye-brows, not smooth, but rough all over with wrinkles, and the same groweth to a most sharp point, these things (saith *Aelianus*) by comparing of whose words with *Pliny*, it is apparent they describe in these words but one and the same beast, and so also doth *Phyles*; whereby I gather, that it is no other beast then the wilde Ass, or at the least the wilde Ass cometh nearest to the Unicorn of all others, for they agree in these things; first, in that both of them have one horn in the middle of the fore-head; secondly, in that both of them are bred in *India*; thirdly, in that they are both about the bigness of a Horse; fourthly, in their celerity and solitary life; fifthly and lastly, in their exceeding strength and untamable natures; but herein they differ both in their feet and colours, for the feet of the wilde Asses are whole and not cloven like the Unicorns, and their colour white in their body, and purple on their head; and *Aelianus* saith, that the horn also differeth in colour from the Unicorns, for the middle of it is only black, the root of it white, and the top of it purple, which *Bellonius* doth interpret, that the superficies or upper face of the horn is all purple, the inner part white, and the inward part or middle black; but of this *Indian* wilde Ass we have spoken already, and therefore I will adde nothing in this place but the words of *Philostrophus* in the life of *Apollo*, who writeth in this manner;

Countries of
Unicorns.

There

There are many wilde Asses which are taken in the Fens, near the River *Hipbafis*, in whose forehead there is one horn, wherewith they fight like Bulls, and the *Indians* of that horn make pots, affirming that whosoever drinketh in one of those pots, shall never take disease that day, and if they be wounded, shall feel no pain, or safely pass through the fire without burning, nor yet be poisoned in their drink, and therefore such cups are only in the possession of their Kings, neither is it lawful for any man except the King, to hunt that Beast, and therefore they say that *Apollonius* looked upon one of those Beasts, and considered his nature with singular admiration.

Now there was one *Damis* in his company, who asked him whether he did believe that the vulgar report of the Unicorns horns were true or no, *Apollonius* made this answer: *Adhibeo si huius regionis immortalem regem esse intellexero, qui enim mihi aut alteri cuiquam poculum ita salubre potest dare, nonne verisimile est ipsum quotidie illo uti, & ex eo cornu frequenter vel ad crapulam usque bibere, nemo enim ut puto illum calumniabitur qui in tali poculo etiam inebrietur.* That is to say, I would believe that report, if I found in this Countrey a King that were immortal and could never dye, for if a man would give me such a cup, or any other man, do not you think that I would believe he drunk in the same cup? and who would blame a man if he drunk in such a cup till he were drunk? for it were lawful to use that horn unto surfeiting: whereby we may gather the minde of that wise man concerning the Asses horn, and the Unicorns; namely, that they may give one some ease against accidental diseases, although they cannot prolong a mans life the space of one day: these things said he. There be Beasts (saith *Aristotle*) as the *Oryx* and *Indian As*, which are armed with one horn, and the cloven footed *Oryx* is no other then the whole footed *As*, for in the middle of their forehead they have one horn, by which both sides of their head are armed, *Cum medium pariter commune utriusque extremo sit.* Because the middle is equally distant from both the extremes; and the hoof of this Beast may well be said to be cloven and whole, because the horn is of the substance of the hoof, and the hoof of the substance of the horn, and therefore the horn is whole, and the hoof cloven; for the cleaving either of the horn or of the hoof cometh through the defect of nature, and therefore God hath given to Horses and Asses whole hoofs, because there is greatest use of their legs, but unto Unicorns a whole and entire horn, that as the ease of men is procured by the helps of Horses, so the health of them is procured by the horn of the Unicorn. These things (saith *Aristotle*.) And *Strabo* also writeth, that there are Horses in *India*, which have Harts heads, with one horn, of which horn their Princes make cups, out of which they drink their drink against poyson; and therefore by this which hath been said it appeareth unto me, that either the *Indian As* is a Unicorn, or differeth from it only in colour; and the objection of the hoofs is answered by *Aristotle*. Unto this discourse I will adde the travails of *Ludovicus Raman*, wherein he saw two Unicorns at *Mecha* in *Arabia*, where *Mahomets* Temple and Sepulcher is. There are preserved (saith he) within the walls and Cloysters of that Temple two Unicorns, which by way of miracle they bring forth to the people, and truly not without cause, for the sight is worthy admiration.

The use of a Unicorns horn.

Now their description is on this sort: One of them and the elder was about the stature of a Colt of two years and a half old, having a horn growing out of his forehead of two cubits length, and the other was much less, for it was but a year old, and like a Colt of that age, whose horn was some four spans long, or thereabouts. The colour of them was like a Weasleled coloured Horse, the head like the head of a Hart, the neck not long, and the mane growing all on one side. The legs slender and lean, like the legs of a Hinde, the hoofs of the fore-feet were cloven like a Goats feet, and the hinder-legs are all hairy and shaggy with the outside; the Beasts although they were wilde, yet by Art or superstition, they seemed to be tempered with no great wildeness; it was said that the King of *Ethiopia*, did send them to the Sultan of *Mecha*, with whom he is constrained to observe perpetual amity. Now these Unicorns are of another kinde, then the Unicorns of *Pliny* and *Ælianus*, because their Unicorn hath a whole hoof, and this cloven, but this objection was answered before; and although *Pliny* and *Aristotle* do acknowledge no other Unicorn then the *Oryx*, whose horn is black, as hard as Iron, and sharp at the point, yet it is clear that there is another Unicorn beside that.

Now *Paulus Venetus* saith, that in the Kingdom of *Basman*, which is subject to the great *Cham*, that there are Unicorns somewhat lesser then Elephants, having hair like Oxen, heads like Boars, feet like Elephants, one horn in the middle of their fore-heads, and a sharp thorny tongue, wherewith they destroy both man and beast: and besides he addeth, that they muddle in the dirt like Swine. Now if it were not for the horn in the middle of the fore-head, I would take this Beast for a Rhinocerot, but because the horn of the Rhinocerot groweth out of the nose, I deem this to be a second kinde of Unicorn; for there is no man that shall read this story, but will think that the learned Author had reason to discern betwixt the eyes and the fore-head, and therefore there can be no exception taken to my observation.

Nicolaus Venetus an Earl saith, that in *Masim* or *Serica*, that is, the Mountains betwixt *India* and *Cathay*, (as *Æneus Sylvius* writeth) there is a certain Beast having a Swines head, an Oxes tail, the body of an Elephant (whom it doth not only equal in stature, but also it liveth in continual variance with them) and one horn in the fore-head: now this if the Reader shall think it different from the former, I do make the third kinde of the Unicorn; and I trust that there is no wise man that will be offended at it: for as we have shewed already in many stories, that sundry Beasts have not only their divisions, but sub-divisions, into sub-alternal kindes, as many Dogs, many Deer,

many Horses, many Mice, many Panthers, and such like, why should there not also be many Unicorns? And if the Reader be not pleased with this, let him either shew me better reason, (which I know he shall never be able to do) or else be silent, lest the uttering of his dislike, bewray envy and ignorance.

Other dis-
courses of the
horn.

Philes.

Now although the parts of the Unicorn be in some measure described, and also their Countries, namely, *India* and *Æthiopia*, yet for as much as all is not said as may be said, I will add the residue in this place: And first of all there are two Kingdoms in *India*, one called *Niem*, and the other *Lamber* or *Lambri*; both these are stored with Unicorns: And *Aloisius Cadamustus* in his fifty Chapter of his Book of Navigation, writeth that there is a certain Region of the New-found World, wherein are found live Unicorns; and toward the East, and South, under the Equinoctial there is a living creature (with one horn which is crooked, and not great) having the head of a Dragon, and a beard upon his chin, his neck long, and stretched out like a Serpents, the residue of his body like to a Harts, saving that his feet, colour, and mouth are like a Lions: and this also (if not a fable or rather a Monster) may be a fourth kinde of Unicorn; and concerning the horns of Unicorns, now we must perform our promise, which is to relate the true history of them, as it is found in the best Writers. This therefore growing out of the fore-head betwixt the eye-lids is neither light nor hollow, nor yet smooth like other horns, but hard as Iron, rough as any file, revolved into many plights, sharper than any dart, straight and not crooked, and every where black except at the point.

There are two of these at *Venice* in the Treasury of *S. Marks Church*, as *Brasavolus* writeth, one at *Argentorat*, which is wreathed about with divers Spires. There are also two in the Treasury of the King of *Polonia*, all of them as long as a man in his stature. In the year 1520. there was found the horn of a Unicorn in the River *Arrula*, near *Bruga* in *Helvetia*, the upper face or outside whereof was a dark yellow, it was two cubits in length, but had upon it no plights or wreathings. It was very odoriferous (especially when any part of it was set on fire) so that it smelled like musk: as soon as it was found, it was carryed to a Nunnery called *Campus regius*, but afterwards by the Governor of *Helvetia* it was recovered back again, because it was found within his territory. Now the vertues of this horn are already recited before, and yet I will for the better justifying of that which I have said concerning the Unicorns horn, add the testimony of our learned men which did write thereof to *Gesner*, whose letters according as I finde them recorded in his work, so I have here inserted and translated word for word. And first of all the answer of *Nicholas Gerbellius* unto his Epistle, concerning the Unicorns horn at *Argentorat*, is this which followeth, for, saith he, The horn which those Noblemen have in the secrets of the great Temple, I have often seen and handled with my hands; It is of the length of a tall man, if so be that you shall thereunto add the point thereof: for there was a certain evil disposed person amongst them, who had learned (I know not of whom) that the point or top of the same horn would be a present remedy both against all poyson, and also against the Plague or Pestilence: Wherefore that sacrilegious thief plucked off the higher part or top from the residue, being in length three or four fingers.

For which wicked offence, both he himself was cast out of that company, and not any ever afterwards of that family might be received into this society by an Ordinance gravely and maturely ratified. This pulling off the top brought a notable deformity to that most splendiant gift. The whole horn from that which sticketh to the fore-head of this beast, even unto the top of the horn is altogether firm or solid, not gaping with chops, chinks or crevices, with a little greater thickness then a tile is usually amongst us. For I have oftentimes comprehended almost the whole horn in my right hand. From the root unto the point it is even as wax candles are rowled together most elegantly severed and raised up in little lines.

The weight of this horn is of so great a massiness, that a man would hardly believe it, and it hath been often wondred at, that a beast of so little a stature could bear so heavy and weighty a burden. I could never smell any sweetness at all therein. The colour thereof is like unto old Ivory, in the midst betwixt white and yellow. But you shall never have a better pattern of this, then where it is sold in little pieces or fragments by the Oylmen. For the colour of our horn is life unto them. But by whom this was given unto that same Temple I am altogether ignorant.

Gerbellius.
A second Hi-
story of a Uni-
corns horn.

Another certain friend of mine, being a man worthy to be believed, declared unto me, that he saw at *Paris* with the Chancellor, being Lord of *Pratus*, a piece of a Unicorns horn, to the quantity of a cubit, wreathed in tops or spires, about the thickness of an indifferent staffe (the compass thereof extending to the quantity of six fingers) being within and without of a muddy colour, with a solid substance, the fragments whereof would boil in the Wine, although they were never burned, having very little or no smell at all therein.

A third Hi-
story of a Uni-
corns horn.

When *Joannes Ferrerius* of *Piemont* had read these things, he wrote unto me, that in the Temple of *Dennis*, near unto *Paris*, there was a Unicorns horn six foot long, wherein all those things which are written by *Gerbellius* in our Chronicles were verified, both the weight and the colour: but that in bigness it exceeded the horn at the City of *Argentorat*, being also hollow almost a foot from that part which sticketh unto the fore-head of the Beast, this he saw himself in the Temple of *S. Dennis*, and handled the horn with his hands as long as he would. I hear that in the former year (which was from the year of our Lord 1553.) when *Vercella* was overthrown by the French, there was brought from that treasure unto the King of *France*, a very great Unicorns horn, the price

price whereof was valued at fourscore thousand Duckets. *Paulus Poëius* describeth an Unicorn in this manner; That he is a Beast, in shape much like a young Horse, of a dusky colour, with a maned neck, a hairy beard, and a fore-head armed with a horn of the quantity of two cubits, being separated with pale tops or spires, which is reported by the smoothness and Ivory whiteness thereof, to have the wonderful power of dissolving and speedy expelling of all venom or poyson whatsoever.

Another description of the Unicorn.

For his horn being put into the water, driveth away the poyson, that he may drink without harm, if any venomous Beast shall drink therein before him. This cannot be taken from the Beast being alive, forasmuch as he cannot possibly be taken by any deceit: yet it is usually seen that the horn is found in the Deserts, as it happeneth in Harts, who cast off their old horn through the inconveniences of old age, which they leave unto the Hunters, Nature renewing another unto them.

The horn of this Beast being put upon the Table of Kings, and set amongst their junkets and bankets, doth bewray the venom if there be any such therein, by a certain sweat which cometh over it. Concerning these horns, there were two seen, which were two cubits in length, of the thickness of a mans arm, the first at *Venice*, which the Senate afterwards sent for a gift unto *Solyman* the *Turkish* Emperour: the other being almost of the same quantity, and placed in a silver pillar, with a short or cutted point, which *Clement* the Pope or Bishop of *Rome*, being come unto *Marssels*, brought unto *Francis* the King for an excellent gift. Furthermore concerning the vertue of such a gift, I will not speak more of this Beast, then that which divulged fame doth perswade the believers.

Petrus Bellonius writeth, that he knew the tooth of some certain Beast in time past, sold for the horn of a Unicorn, (what Beast may be signified by this speech I know not, neither any of the *French* men which do live amongst us) and so a small piece of the same being adulterated, sold sometimes for 300. Duckets. But if the horn shall be true and not counterfeit, it doth notwithstanding seem to be of that creature which the Ancients called by the name of a Unicorn, especially *Ælianus*, who only ascribeth to the same this wonderful force against poyson and most grievous diseases, for he maketh not this horn white, as ours doth seem, but outwardly red, inwardly white, and in the midst or secretest part only black.

Of adulterated Unicorns horns.

But it cannot be denied, that this our Unicorns horn was taken from some living wilde Beast. For there are found in *Europe*, to the number of twenty of these horns pure, and so many broken; two of the which are shown in the treasury of *Saint Marks* Church at *Venice*, (I heard that the other was of late sent unto the Emperour of the *Turks* for a gift by the *Venetians*) both of them about the length of six cubits: the one part which is lowest being thicker, and the other thinner, that which is thicker, exceedeth not the thickness of three inches just, which is also attributed unto the horn of the *Indian* As, but the other notes of the same are wanting.

I do also know, that which the King of *England* possesseth to be wreathed in spires, even as that accounted in the Church of *S. Dennis*, then which they suppose none greater in the world, and I never saw any thing in any creatures more worthy praise then this horn. The substance is made by nature, not Art, wherein all the marks are found which the true horn requireth. And forsomuch as it is somewhat hollow (about the measure of a foot which goeth out of the head, and the bone growing from the same is comprehended) I conjecture that it never falleth, as neither the horns of a *Musk-cat*, a wilde *Goat*, and an *Ibex* do: but the horns of these beasts do yearly fall off, namely, the *Buck*, the *Hart*, *Field-goat*, and *Camelopardal*. It is of so great a length, that the tallest man can scarcely touch the top thereof, for it doth fully equal seven great feet. It weigheth thirteen pounds with their affize, being only weighed by the guess of the hand, it seemeth much heavier. The figure doth plainly signifie a wax candle, (being folded and wreathed within it self) being far more thicker from one part, and making it self by little and little less towards the point, the thickest part thereof cannot be shut within ones hand, it is the compass of five fingers, by the circumference, if it be measured with a thread, it is three fingers and a span.

That part which is next unto the head hath no sharpness, the other are of a polished smoothness. The splents of the spire are smooth and not deep, being for the most part like unto the wreathing turnings of *Snails*, or the revolutions or windings of *Wood-bine* about any *Wood*. But they proceed from the right hand toward the left, from the beginning of the horn, even unto the very end. The colour is not altogether white, being a long time somewhat obscured. But by the weight it is an easie thing to conjecture, that this Beast which can bear so great burden in his head, in the quantity of his body can be little less then a great *Ox*.

There are found oftentimes in *Polonia* certain horns which some men guess to be of the Unicorns, by a double argument. First, because they are found several, never by twains which as yet is heard, although sometimes they may be found with the skull and bones of the rest of the body: furthermore, because their strength or vertue is approved against great and most grievous diseases: concerning which thing *Antonius Schnerbergerus*, a Physitian of great learning amongst the *Sarmatians*, and an excellent observer of nature, writ unto me some five year past, to see some of these horns, having sent them by the labour of my very good friend *Joachimus Reticus*, a most excellent Physitian in *Sarmatia*, and incomparable in the *Mathematick Arts* in this age.

Of the Unicorns horns found in *Polonia*.

The first of these horns (saith he) I saw being of the length of my fadom, with a duskyish or darkish colour: the point thereof being exceeding sharp and smooth. The compass about

the root of the horn did exceed six spans. The outside was plain, with no turnings of spires: the substance easie to be crummed, the figure crooked, the colour exceeding white within, which if it be drunk in Wine, doth draw over it self a dark colour. Eight such divisions were joyned to the same, as you shall see in the greater part which I send, but that part is not of the horn, but either the entrance of the palat, or some other things as I conjecture.

This horn was found under the earth, (not deeper then a foot, in a solitary and high place, as between two hills, through which a River runneth) by Countrey-men that were digging to lay the foundation of a house. But the horn was smitten with an Ax, and severed into very small pieces: but that noble and excellent man *Joannes Frikas* (in whose field the horn was found, being distant from *Cracovia* two miles) by all diligence he could, lest that the small pieces should be cast abroad, took deliberate heed, that they should be taken out of the earth. From the root to the top it was all round and smooth, but touching it with ones tongue, it cleaveth fast unto it, the tooth was as big as a man could gripe in his hand, being in the upper or outward part bony or hollow within, white in the middle, and toward the end somewhat reddish.

But there was found all the Beast, as by the greatness of his bones might easily be perceived, being bigger in quantity then a Horse. It is most certain that it was a four-footed Beast, by the bones of the shoulders, thighs and ribs. But if this horn were the tooth of an Elephant, as some do suppose, you would marvel why two (which I have heard) were never found together. But the teeth or rather horns of Elephants are neither so crooked that they might come almost to half a circle as they did. The strength of this horn a penny weight thereof being put in Wine or water of Borage, healeth old Fevers, as also tertian or quartern Agues of three years continuance, and cureth many diseases in mens bodies, as asswaging the pain of the belly, and making of those to vomit, who can by no means ease their stomachs. Hitherto shall suffice to have spoken concerning one of those four horns which I saw. The other was like unto this, but less pure; for the colour was outwardly most black, inwardly most white, being found in the River. The third, and fourth most hard, so that a man would think it were by the touching thereof stone or iron, being solid even unto the point, for I have not seen them wholly, but the part of one, to the length of a cubit; of the other, to the length of half a cubit, with a dark colour, being almost of the same thickness as the two former: But forasmuch as the two former have no rifts or chinks in them, these have by their longitude, being like herbs bending or wreathing in their stalks.

There was another found in a certain field, so much appearing out of the earth, that the rude or Countrey sort did think it to be some pile or stake. Many also are cured and freed from shaking Feavers by the medicinal force of these, the cause whereof I suppose to be this, because the former are softer, for as much as one of them will ly in the water for so long a time, but the other under the earth being scarce well hid. I afterwards saw a fifth like unto the first, none of them being straight or direct up, but also crooked, some almost unto a half circle: Hitherto *Schnebergerus*, who also addeth this: That there are more of these to be found in *Polonia*, and therefore for the most part to be contemned.

There are moreover found in *Helvetia* some of these horns: one in the River *Arula* against the Town of *Bruga*, the other in the last year, in the River of *Birsa*, but it was broken, even as the third, with that famous Earl of the *Cymbrians*, *William Warner* in a Tower near unto the City *Rottavit*, who gave unto *Gesner* a good piece thereof, who found another piece as he was a fishing at *Birsa* in the River. And it is no great marvel that they are found there, where through length of time they are broken into small pieces, and carryed by the force of the waters into divers places.

But it is most diligently to be observed, whether they are found in the earth, as also to be known whether that great horn be of this beast, which hangs alone in the great Temple at *Argentaur*, by the pillar, for it hath hanged there many years before, as now it appeareth, for that doth plainly seem the same magnitude, thickness, and figure which *Schnebergerus* hath described in his own horn, that we have allowed before for wilde Oxen. The Ancients have attributed singular horns to the Unicorn, whom some have cald by other names as it is said: and furthermore to the *Oryx* (a wilde Beast unknown in our age except I be deceived) which *Aristotle* and *Pliny* call a Unicorn, *Ælianus* a *Quadrucorn*. *Oppianus* doth not expresse it, but he seemeth to make it a two horned Beast. *Simeon Sethi* doth also write, that the Musk-cat or Goat which bringeth forth Musk, hath one horn. Certain later writers (as *Scaliger* reporteth) say, that there is a certain Ox in *Ethiopia* which hath one horn coming out in the midst of his fore-head, greater then the length of a foot, bending upwards, the point being wreathed overthwart, and they have red hair, whereby we gather that the horn of all Unicorns is not pure. But the reason why these horns are more found in *Polonia*, then in any other place, I cannot well guess, whether from thence we shall suspect them to be of certain *Vries*, which at this day abide in the Woods of *Sarmatia*; in times past, there were many more, which have lived both in greater and larger Woods, neither were they killed with so often hunting: some whereof it is most like have come to great age, as appeareth by their great and stately horns, which things we leave to be considered of others. I suppose that the Apothecaries never have the true horn of a Unicorn, but that some do sell a kinde of false adulterated Horn, other the fragments of this great and unknown horn, of which we have spoken, and not only of the horn, but also of the bones of the head; some of which are so affected by longinquity of time, that you may take a three-fold substance in them, although it be broken by a certain distance, one being for the most part whitish and pale, the other whiter and softer, the third stony and most white.

I hear that in the new Islands there was a horn bought in the name of a Unicorns horn, being much praised for expelling of poyson: which what it is I have not as yet examined, but it is to be inquired, whether it be Rhinoceros or not, for both the ancient and late Writers do mingle this with the Unicorn. I do verily conjecture that the same strength is pertinent to both the Horns.

And thus much shall suffice concerning the true Unicorns horn, and the Vertues arising therefrom. In this place now we will proceed to the residue of the history, reserving other uses of this horn to the proper medicines.

These beasts are very swift, and their legs have no Articles. They keep for the most part in the Deserts, and live solitary in the tops of the Mountains. There was nothing more horrible then the voice or braying of it, for the voyce is strained above measure. It fighteth both with the mouth and with the heels, with the mouth biting like a Lion, and with the heels kicking like a Horse. It is beast of an untamable nature, and therefore the Lord himself in *Job* saith, that he cannot be tyed with any halter, nor yet accustomed to any cratch or stable. He feareth not Iron nor any Iron instrument, (as *Isidorus* writeth) and that which is most strange of all other, it fighteth with his own kinde, yea even with the females unto death, except when it burneth in lust for procreation; but unto stranger-beasts, with whom he hath no affinity in nature, he is more sociable and familiar, delighting in their company when they come willingly unto him, never rising against them, but proud of their dependance and retinue, keepeth with them all quarters of league and truce, but with his female, when once his flesh is tickled with lust, he groweth tame, gregal and loving, and so continueth till she is filled and great with young, and then returneth to his former hostility. He is an enemy to the Lions, wherefore as soon as ever a Lion seeth a Unicorn, he runneth to a tree for succour, that so when the Unicorn maketh force at him, he may not only avoid his horn, but also destroy him; for the Unicorn in the swiftness of his course runneth against the tree, wherein his sharp horn sticketh fast, then when the Lion seeth the Unicorn fastned by the horn, without all danger he falleth upon him and killeth him. These things are reported by the King of *Æthiopia*, in an *Hebrew* Epistle unto the Bishop of *Rome*.

It is said that Unicorns above all other creatures, do reverence Virgins and young Maids, and that many times at the sight of them they grow tame, and come and sleep beside them, for there is in their nature a certain savour, wherewithal the Unicorns are allured and delighted: for which occasion the *Indian* and *Æthiopian* Hunters use this stratagem to take the beast. They take a goodly strong and beautiful young man, whom they dress in the apparel of a woman, besetting him with divers odoriferous flowers and spices.

The man so adorned, they set in the Mountains or Woods where the Unicorn hunteth, so as the winde may carry the savour to the beast, and in the mean season the other Hunters hide themselves: the Unicorn deceived with the outward shape of a woman and sweet smells, cometh unto the young man without fear, and so suffereth his head to be covered and wrapped within his large sleeves, never stirring but lying still and asleep, as in his most acceptable repose. Then when the Hunters by the sign of the young man perceive him fast and secure, they come upon him, and by force cut off his horn, and send him away alive: but concerning this opinion we have no elder authority then *Tzetzes*, who did not live above five hundred years ago, and therefore I leave the Reader to the freedom of his own judgement, to believe or refuse this relation; neither was it fit that I should omit it, seeing that all Writers since the time of *Tzetzes*, do most constantly believe it.

It is said by *Ælianus* and *Albertus*, that except they be taken before they be two years old they will never be tamed; and that the *Thracians* do yearly take some of their Colts, and bring them to their King, which he keepeth for combat, and to fight with one another: for when they are old, they differ nothing at all from the most barbarous, bloody, and ravenous beasts. Their flesh is not good for meat, but is bitter and unnourishable: And thus much shall suffice for the natural story of the Unicorn; now followeth the medicinal.

The Medicines arising from the Unicorn.

Concerning the horns of the Unicorn, I have sufficiently already written, as the Antients have delivered in their remedies: but in this place I will handle the remedies which late Writers have attributed thereunto, as also our own observations of the same. I remember that in times past, I saw a piece of this horn of the weight of nine Inches, with a certain Merchant in the market, being black and plain, and not wreathed in circles or turnings, but at that time I did not so much observe it. Now amongst our Apothecaries I do not only finde small or little fragments out of which there issued (as they say) some certain marrow, which are rounder, whiter, and softer.

But both the same colour, as also the substance being put too much, and eaten, if it be easily crummed, and not stuf as other horns, doth signifie the same not to be good or perfect, but counterfeited and corrupted: as perhaps the horn of some other beast burnt in the fire, some certain sweet odors being thereunto added, and also imbrued in some delicious or aromatical perfume; peradventure also Bay by this means, first burned, and afterward quenched or put out with certain sweet smelling liquors. There is great care to be had, that it be taken new, and while it smelleth

The natural
properties of
Unicorns.

Philes.
Ælianus.

The taking of
Unicorns.

Albertus.
Alumnus.
Tzetzes.

sweet, not either abolished by age, nor the vertue thereof diminished by often or frequent cups. For rich men do usually cast little pieces of this horn in their drinking cups, either for the preventing or curing of some certain disease. There are also some which inclose it in gold or silver, and so cast it in their drink, as though the force thereof could remain many years, notwithstanding the continual soaking in Wine.

But that which is so used and drunk in Wine doth bring upon it a certain dark or obscure colour, the whiteness which before remained upon the same being quite lost, expelled and utterly abolished. Most men for the remedies arising from the same, command to use the horn simply by it self: Others prefer the marrow therein. It being cast in Wine doth boil, which some men either through ignorance or deceit, impute to be a sign of the true horn, when as contrarily any other horns being burnt, do in water or wine cause bubbles to arise. There are some wicked persons which do make a mingle mangle thereof, as I saw amongst the *Venetians*, (being as I hear say, compounded with lime and sope) or peradventure with earth or some stone: (which things are wont to make bubbles arise) and afterward sell it for the Unicorns horn.

Wherefore it shall be more safe to buy it out of the whole horn if it may be done, or of greater crums, and which may well describe the figure of a horn; then small fragments where you may receive less deceit. A certain Apothecary which was at *Noremberg*, in a stately mart Town amongst the *Germans*, declared the way unto me how to deface the colour of an adulterated Unicorns horn, being made by some with Ivory, either macerated or boiled with certain medicines (by Set-foil as I suppose, and other things) by which means having scraped it, I found within the true substance to be Ivory. *Antonius Brasavolus* writeth, that all men for the most part do sell a certain stone for Unicorns horn: which truly I deny not to be done, who have no certainty therein my self: notwithstanding also it may to come pass, that a very hard and solid horn, about the point of a sword especially (which part is preferred to inferior, as also in Harts horns) to which either stones or iron may yeild, such as Authors attribute to the Rhinocerot. And other Unicorns may bear the shape of a stone before it self. For if *Orpheus* concerning Harts horns rightly doubted, whether the same or stones were of greatest strength: I think it more to be doubted in the kinde of Unicorns, for the horns of Harts are not only solid (as *Aristotle* supposed) but also the horns of Unicorns, as here I have said.

The horn of an Unicorn is at this day used, although age or longinquity of time hath quite abolished it from the nature of a horn. There are some which mingle the Rhinoceros with the Unicorn, for that which is named the Rhinoceros horn, is at this day in Physical use, of which notwithstanding the Authors have declared no effectual force. Some say that the Unicorns horn doth sweat, having any poyson coming over it, which is false, it doth perhaps sometimes sweat, even as some solid, hard, and light substance, (as also stones and glass) some external vapour being about them, but this doth nothing appertain to poyson.

It is in like manner reported, that a kinde of stone called the Serpents tongue doth sweat having poyson come over it. I have heard and read in a certain book written with ones hands, that the true horn of a Unicorn is to be proved in this manner. To give to two Pigeons poyson (red Arsnick or Orpin) the one which drinketh a little of the true Unicorns horn will be healed, the other will die, I do leave this manner of trial unto rich men. For the price of that which is true, is reported at this day to be of no less value then gold. Some do sell the weight thereof for a floren, or eight pence: some for a crown, or twelve pence. But the marrow thereof is certainly of a greater price, then that which is of harder substance. Some likewise do sell a dram thereof, for two pence half penny, so great is the diversity thereof. For experience of the Unicorns horns to know whether it be right or not: put silk upon a burning coal, and upon the silk the aforesaid horn, and if so be that it be true the silk will not be a whit consumed.

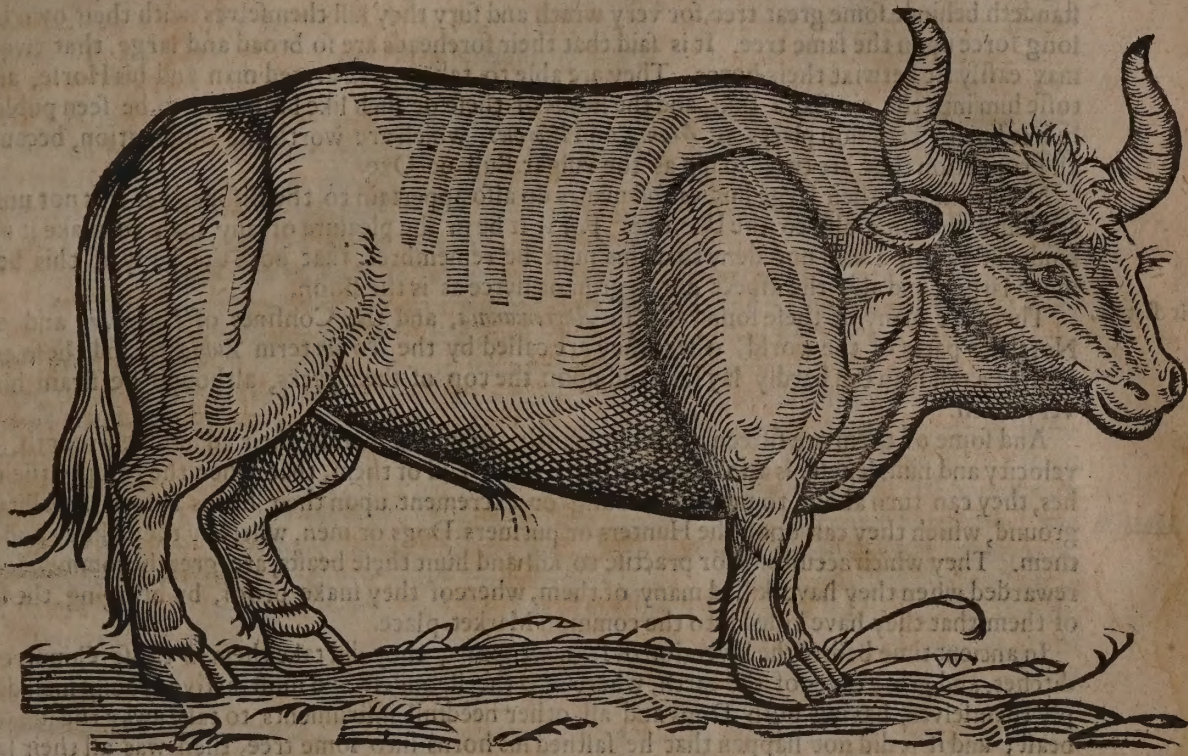
The horns of Unicorns, especially that which is brought from new Islands, being beaten and drunk in water, doth wonderfully help against poyson: as of late experience doth manifest unto us, a man, who having taken poyson & beginning to swell was preserved by this remedy. I my self have heard of a man worthy to be believed, that having eaten a poysoned cherry, and perceiving his belly to swell, he cured himself by the marrow of this horn being drunk in Wine, in very short space.

The same is also praised at this day for the curing of the Falling sickness, and affirmed by *Aelianus*, who called this disease cursed. The ancient Writers did attribute the force of healing to cups made of this horn, Wine being drunk out of them: but because we cannot have cups, we drink the substance of the horn, either by it self or with other medicines. I happily sometime made this Sugar of the horn, as they call it, mingling with the same Amber, Ivory dust, leaves of gold, coral, & certain other things, the horn being included in silk, and beaten in the decoction of Raisins and Cinamon, I cast them in water, the rest of the reason of healing in the mean time not being neglected. It is moreover commended of Physicians of our time against the pestilent feaver, (as *Aloisius Mundellus* writeth) against the bitings of ravenous Dogs, and the strokes or poysonsome stings of other creatures: and privately in rich mens houses against the belly or maw worms, to conclude, it is given against all poyson whatsoever as also against many most grievous diseases. The King of the *Indians* drinking out of a cup made of an *Indian* Unicorns horn, and being asked wherefore he did it, whether it were for the love of drunkenness, made answer, that by that drink drunkenness was both expelled and resisted, and worser things cured, meaning that it clean abolished all poyson whatsoever. The horn of a Unicorn, doth heal that detestable disease in men called *S. Johns* evil, otherwise the

cursed

curled disease. The horn of an Unicorn being beaten and boiled in Wine, hath a wonderful effect in making the teeth white or clear, the mouth being well cleansed therewith. And thus much shall suffice for the medicines and vertues arising from the Unicorn.

Of the URE-OX.



This beast is called by the Latines, *Urus*; by the Germans, *Aurox*, and *Urox*, and *Grosse vesent*; by the Lithuanians, *Thur*; the Scythians, *Bubri*; and these beasts were not known to the Grecians, (as Pliny writeth) of whom Seneca writeth in this manner;

The several names.

*Tibi dant variae pectora Tigres,
Tibi villosi terga Bifontes,
Latifq; feri cornibus uri.*

And Virgil also maketh mention of them in his *Georgicks*, writing of the culture or tilling of Vines.

*Texenda sepes etiam & pecus omne tenendum;
Præcipue cum frons tenera, imprudensq; laborum,
Cui super indignas hyemes, solemq; potentem,*

*Silvestres uri assidue, capreaq; sequaces
Illudunt.*

These wilde beasts or Ure-oxes are wilde Oxen, differing from all other kinds, already rehearsed in the story of Oxen, Bugles, Bisons, or any other, although some have unskillfully taken them for Bisons, and Sir Thomas Eliot in his Dictionary, doth English *Urus* a Bugle but beside him no body, that I know, and for this cause he is reprehended by other. Now although there be nothing in this beast but ordinary, yet seeing it is a creature so well known, we have less reason to omit his shape and story, lest we should justly be condemned of negligence and carelessness.

In outward proportion of the body it differeth little from the Bull. It is very thick, and his back somewhat bunched up, and his length from the head to the tail is short, no ways answerable to the proportion of his stature and sides: the horns (as some say) are but short, yet black, broad, and thick, his eyes red, a broad mouth, and a great broad head, his temples hairy, a beard upon his chin, but short, and the colour thereof black, his other parts, as namely in the face, sides, legs, and tail, of a reddish colour.

These are in the wood *Hercynia*, in the *Pyrenay* Mountains, and in *Mazovia*, near *Lithuania*. They are call'd *Uri* of *Oron*, that is the Mountains, because their savage wildness is so great, that they seldom descend from those safeguards. They far excel Bulls, and other wilde Oxen, coming nearer to the quantity or stature of Elephants, then to the Bull. In resemblance a man would think them to be compounded of a Mule and a Hart, for their outward resemblance so seem. It is said they could never be taken by men, although they were taken when they were

The several parts.

Places of their abode.

young.

Coutreys of
their breed.

young, yet they love other heards of Cattel, and will not forsake them easily after they have once joyned themselves unto them, whereby many times they are deceived and killed, twenty, thirty, or forty at a time. *Caligula Caesar* brought of these alive to *Rome*, and did shew them in publick spectacle to the people, and at that time they were taken for wilde Bulls. Some affirm that there are of these in *Prussia*, and that they are so wilde, cruel, and untamable, as they fear or spare neither man nor beast; and when they are set upon and wounded by the Hunters in the Woods among the trees, feeling their hurts, and perceiving their blood issuing out of their body, they rage above measure; for having no means to take revenge upon the Hunter, by reason that he standeth behinde some great tree, for very wrath and fury they kill themselves with their own headlong force upon the same tree. It is said that their foreheads are so broad and large, that two men may easily fit betwixt their horns. They are able to take up an armed man and his Horse, and to toss him into the air like a Bull, and the heads of these or such like beasts are to be seen publickly fixed up in common places at *Mentz* and *Wormes*, which are worth the observation, because in all proportion they are twice so big as the vulgar Bull or Oxe.

Their stature.

Now although their large bodies and manes do also appertain to the Bisons, yet it is not unfit to attribute the same also to the Ure-oxe. For if it be in the pleasure of any man to make it also a kinde of Bison, I will not deny that this must be remembered, that both the body of this beast is much larger, and also the aspect not so grim or fierce as is the Bison.

There are many of these found also in *Angremannia*, and the Confines of *Lapponia*, and other Northern parts of the world, where they are called by the *Illyrian* term *Zubrones*, and these are so high as a tall man can hardly lay his hand upon the top of their backs, although he strain himself very much.

And some of them are fifteen cubits in length, of whom, beside their admirable strength, their velocity and nimbleness is also remarkable, for it is said of them, that when they empty their bellies, they can turn about to take their dung or excrement upon their horns before it fall to the ground, which they cast upon the Hunters or pursuers, Dogs or men, whereby they blinde and burn them. They which accustome or practise to kill and hunt these beasts, are greatly commended and rewarded when they have killed many of them, whereof they make proof, by bringing the horns of them that they have killed into the common Market-place.

In ancient time before the invention of Iron weapons, they did take them in those Countreys in ditches, and great caves of the earth, whereunto the strongest and most active young men did apply themselves, having both Dogs and all other needfull instruments to take away the life of this beast; and if it did not happen that he fastned his horns into some tree, then was all their labour lost, for they could never come neer to touch him, only when in his speedy swift fury among the woods, he ran his horns into the body of some Oaks or such like, whereby he was stayed, (for it is not so easie to pull them forth as to fixe them, because they are rugged, crooked, and stand upward) then he was overtaken and killed by some Hunter or other. And if at any time he met with a Hunter, it was fatall and deadly to the man, except he could avoid the beast by getting unto some tree.

Use of their
parts.

Sigismundus Baro, that honourable man writeth thus hereof, that in *Malonia* neer *Lituania*, it is bred, and called *Thur*, and they are a kinde of wilde Oxen, not differing from the vulgar, (except as aforesaid) but in their colour, and a spotted strake or line which goeth all along their backs. And those Ure-oxen are kept as it were in Parks and Chases, having a peculiar designment by the King, and the inhabitants of certain Villages to keep and watch them. Sometimes when they meet with a common or vulgar tame Cow, they leap upon her, and fill her; but such a Calf liveth not long, but dyeth as if it were not perfect, and if it do chance to live, it never resembleth the fire, nor yet is admitted into their society and herd, but are refused for bastards and ignoble breed. And when he was Ambassador to *Sigismundus* the Emperour he received for a gift one of these killed, and bowelled, having the skin of the forehead cut off and taken away, whereat he wondred much but durst not ask the question or reason thereof; yet afterward he understood that there were girdles made of that part of the hide, whereby the women in that Countrey were perswaded that they should be made apt to conceive and bring forth children: and *Bona* the mother of *Sigismundus* gave unto him two girdles for that purpose, whereof he said he bestowed one upon the Queen of *Romans*, who did take the same at his hand very graciously and thankfully. And it is certain, that out of the hides of these beasts are made girdles, which are two fingers thick, and strong, and yet the hair upon them is soft and gentle like any Wooll.

Histories of
other wilde
Oxen.

The flesh of these beasts is rank and heavy, and if it be eaten fresh it causeth loosenesse, but if it be salted a day or two it is nothing inferiour to Beef, for so the humidity is taken away. With the horns are made drinking Cups, and for that purpose the richer sort of people do edge or lip them over with silver and gold: they hold or contain as much as two ordinary Pitchers of water. Other take off the points and fasten them to spears, being very sharp, and not easily blunted or broken, and other make of them cut into slices or panes the best Lanthorns in the World. And thus much for the Ure-ox, unto whose History it is needfull for me to adde the story of divers other wilde Oxen not yet described.

Strabo saith, that there are Oxen called *Rhizes*, among the *Hesperian Ethiopians*, who in outward proportion are much like the vulgar Bulls, but in other parts, as quantity, strength, and vigour, comparable to the Elephants.

Theretus

Thevetus writeth, that betwixt *Florida* and *Palma*, in the new found World, there are very many strange shaped beasts, and among other a kinde of wilde Bull, whose horns are a foot long, but on his back he hath a tumour or bunch like a Camel, and is therefore called *Bos Camelita*, his hair all over his body is very long, but especially under his chin, and his colour like a yellow Mule, and this beast is a continual enemy to a Horse. Like unto these are the tame *Scythian* Oxen, and some other in *Asia*, who carry packs upon the bunches of their backs, and also bend their knees like Camels.

Of the *Lybian* O X E.

There is so great an innumerability of *Lybian* Oxen, of so great swiftnesse and celerity, that the Hunters are many times deceived in hunting them, and so do certainly chance or fall upon other wilde beasts for the same they raised, and he in the mean while doth hide himself in a place of brambles and briars, keeping himself there safe, while other wilde beasts doth appear like unto them, and so do deceive the eyes of the Hunters: therefore if any man do begin to follow after either of them, it will be but labour lost, for he is not able to comprehend or attain them with a Horse, except he may take them being wearied by longitude of time. But if any Hunters shall finde a young Calf, spare the life thereof, and shall not presently kill it, he shall reap a double profit by it: and first it doth bring profit to it self, and doth induce or lead his Dam into captivity. For after that the Hunter hath bound the Calf with a rope, she being inflamed by the love or affection which she beareth to her Calf, returneth back again unto it, coveting with an ardent desire to loosen and take away her Calf out of the bond or halter, therefore she thrusteth in her horn that she may loosen the cord, and pluck her young one away, whereby she is kept fast bound with her Calf, her horns being intangled in the rope. Then cometh the Hunter and killeth her, and *Ælianus*. taketh forth her liver, and also cutteth off her dugs or udder, and doth likewise pluck off her skin, and leaveth her flesh for the Birds and wilde Beasts to feed upon. There is another kinde of Ox in *Lybia*, whose horns do bend downward, and for that cause they are said to feed going backwards. Of the sayings of *Herodotus* and *Ælianus*, I have spoken before. *Philes* doth write, that they are called Oxen going backward, because the broadnesse of their horns doth cover their eye-sight, so that it standeth them in no use to go forward, but is very commodious to go backward. There is an Oxe which liveth in the Woods of *Africk*, which doth resemble a domesticall Oxe, yet lesse in stature, of a brown or russet colour, and also most swift of foot. This beast is found in the deserts, *Leo African.* or in the Marches or limits of the deserts. Their flesh is also of a perfect or absolute savour and taste, good for the nourishment of men.

Of the *Indian* wilde O X E N.

The horns of the Oxen of the *Garamantons* do grow downwards toward the earth, and therefore when they feed they bow the hinder part of the neck, (as *Solinus* writeth) and as we have *Pliny*. spoken before in the diversities of wilde Oxen. The Woods also in *India* are filled with wilde Oxen. In the Province of *India* where the *Gymnitis* inhabit, are great multitudes of Oxen which live in the Forrests or Woods. In the Kingdoms which are upon the borders or confines of *India*, (in the mid of the day) are many fair and great Oxen which live in the Woods. There are Mountains in the inmost Regions of *India*, which are very hard to come unto, where they say live those beasts wilde, which are among us domesticall and tame, as Sheep, Goats, Oxen, and so forth. The great King of *India* doth elect or choose a day every year for the runnings and combats of men, and also fightings of Beasts, who setting their horns one against another, do fight irefully with admirable rage, untill they overcome their adversaries. They do also labour, and strive with all their nerves and sinewes, even as if they were Champions, or fought for some great reward, or should get honour by their battell. *Strabo.* *Paul: Venet.*

Wilde Bulls, tame Rams, Asses with one horn, Hyenaes, and lastly Elephants, as if they were capable of reason, they wound them among themselves, and the one doth oftentimes overcome and kill the other, and sometimes fall down together being both wounded. I have also recited before in another place of the intreaty of Oxen, those *Indian* Oxen which are said to be most swift in their joynts in running to and fro, when they are at combate, because there we had not distinguished whether these were wilde Oxen or not: but it doth appear in this place, that they are wholly taken for wilde Oxen: and the thing it self doth manifest that domesticall Oxen are not so swift nor so strong. *Ælianus*.

The Oxen in *India* have altogether whole hoofs, and also but one horn. *Æthiopia* also doth *Pliny*. breed *Indian* Oxen, that is to say, Oxen that are like to those of *India*, for some have but one horn, and other some three. *Solinus* saith, that there are found in *India* some Oxen which have but one horn, and othersome which have three horns, with whole hoofs and not cloven. The *Indian* Oxen are said to be as high as a Camel, and their horn four foot broad. *Ptolemy* doth report, that he saw a horn of an *Indian* Oxe which did hold in the breadth of it thirty gallons.

Aristotle.

There are also Oxen which are bred in *India* which in greatnesse are no bigger then a Buck, or Goat, they do run yoked together very swift, nor do end their race with lesse speed then the Goat-land Horses, and I did not take them to be Oxen living in the Woods, for our Rangifer and Oxen which live in the Woods, are the swiftest of all beasts in this kinde, and most apt to combats and runnings, and they may partly be called Oxen having one horn, and partly Oxen having three horns: neither are they found in *Scandinavia*, but also in other Regions and Dominions of *Asia*, as we beleeve that *Indian* Oxen are of the same kinde. *Solinus* doth not rightly call those *Indian* Oxen, which *Ælianus* calleth *Æthiopicos*, as I have declared above in the story of the *Æthiopian* Oxen, for their horns are moveable. *Ctesias* doth write, that there are sprung up among the same beasts, that beast which is called *Manticora*: which is manifested by *Aristotle* in his History of Four-footed beasts. *Hermolaus* also and others have not considered this error. Among the *Aracbotans* there are Oxen which live in the Woods, which do differ from those that are bred in the City, as much as wilde Swine from tame. Their colour is black, bending a little downwards, and their horns broad and upright. There is a City in *India* called *Aracbotus*, taking the name from the River *Aracbotus*, which doth flow out of *Causacus*, what those beasts are which do bend their horns upward, I have declared in the story of the *Bison*; for as there may be spoken something concerning the difference of the Plants of the Woods, so also concerning the beasts that are bred in the City, and those that are bred in the Woods.

Of the WEASEL.



There are divers kinds of Weasels, but in this place we do intreat of the least kinde, whose form and shape we have also here set down. It is likewise properly named of the *Latines*, *Mustela*, a Weasel, for so we were wont plainly to name those which were common and domesticall, and to adde names to those which are more seldome seen, or live in the Woods for difference sake.

The word *Chuld* in *Levit. 11.* is translated a Weasel of all Interpreters. The *Rabbins* do call them *Chuldab*, and commonly *Mustela*, as *David Kimhi* writeth. The *Chaldeans* do translate it *Chulda*, the *Arabians* *Caldab*, the *Persians* *Gurba*, and *Hieron.* *Mustela*. *Oach* is an *Hebrew* word, whereupon it was once called *Ochim*, plurally in *Isai. 13.* *Babylon subvertetur, & implebunt domos eorum Ochim*, *Munsterus cercopithecus vertit.* That is to say, *Babylon shall be overthrowen, and their houses shall be filled with Ochim*, that is, *Weasels*, but *Munsterus* doth call them *Munkeys*. *David Kimhi*, and the Master of *Talmud*, do call it *Nemiab*, that is, like to a Cat, but commonly they call it a *Martin*, or *Firum*, and *Furon*. The Authors of the Concordances of the *Hebrewes*, do interpret *Koph*, *Circopithecum*, or *Cephum*, and *Culdab*, that is to say, *Mustela*, a Weasel, as the *Jewes* do think. The *Chalde* hath translated a *Martin* *Ochijn*. *Symmachus* also hath left or forsaken the *Hebrew* word. *Aquila* doth translate it *Typhones*, that is, a Whirle-winde, *Hieronimus* doth translate it *Draco*, that is, a Dragon.

Roab is truly interpreted to be a kinde of Lizard, or a *Chamelion*; in *Leviticus 11.* We also read in *Albertus*, *Hir*, and *Hyrz*, (two barbarous words) for a Weasel, which he himself doth not understand: but I have discerned or taken this signification out of the words of *Aristotle*: for *Albertus* doth most unlearnedly expound *Hircum* a Hare, being deceived, because both the living beasts do often times remove their young ones from one place to another in their mouths. *Fetis* also doth seem to be according to *Aristotle*, no other thing then *Gale*, that is to say, a Weasill. For *Feyton* (saith he) it hath wit like a Fox, that is to say, in setting upon Hens or Chickens, and the other shape and form of it is *Katiz*, that is to say, *Iñis*, a Ferret. *Namstza* also is even to this day called a Weasel among the *Grecians*. *Ibanauge* is also called a Weasel, *Ibinuers* is a little four-footed beast. *Bellula* also doth seem to signifie a Weasel, by a feigned word proceeding from the *French* or *Italians*, which do call also *Belemam*, *Balottam* pro *Mustela*, for a Weasel, but some of the later *Grecians* do abuse it, in terming it a Cat, as I have spoken before in the History of the Cat.

Silvaticus.

Theodorus Gaza in *Aristotle* doth interpret it sometimes a Weasel, and other sometimes a Cat; neither can I sufficiently gather wherefore he doth so change it, seeing that the *Grecians* call *Cattum* for a Cat *Aeluron*, and the *Latines* *Felem*. Some say, that *Mustela* for a Weasel hath been interpreted

or declared of late dayes, being only led (if I be not deceived) with the affinity of the German word, for the Germans do call *Mustela* a *Wifel*. The Grecians do usually take to this day *Mustela* for a Weasel, as I have read in the Oration of *Suidas*. A Weasel is called in Italy *Donnola*, or *Ballottula*. It is apparent by the words of *Avicen*, that *Donnula*, and otherwise *Dannula* is barbarously used pro *Mustela* for a Weasel: *Albertus* and *Niphus* do write *Damula* for a Weasel, by the which word, the later Writers do very obscurely understand *Dama* for a Weasel, which is of the kinde of Goats living in the Woods. *Damma* or *Dammula* is a small and weak beast, (as *Isidorus* writeth) speaking of those that are wilde, and will not come to hand. When it doth bring forth young, it doth presently devour the Seconds or those that come after birth, before they touch the earth, and yet it is a prey it self to other Four-footed beasts. You may also seem to take a little Dear, or a kinde of young Goat, or a Weasel, for that kinde of beast which doth devour her Seconds: But we read that neither of these do it.

The Lizard is said to devour her first litter which she littereth in her old age. We also call Domesticall Weasels, *Foinos*. A Weasel is called in France, *Belotte*, or *Belette*, and *Albalotte*. Some as I do hear, which do inhabit about the Towns of *Meta*, do call them *Baccal*. *Carolus Figuli* doth interpret a Weasel in French, *Fovinum*, or *Marturellum*, of which I have shewed before that there is two kinds, and also that there are Weasels living in the woods. In Spain also they are called *Comadreia*. The people of *Rhetia* which speak *Latine*, do keep the *Latine* name. The Germans do call them *Wifel* or *Wifele*. *Georgius Agricola* saith, that it is called a Weasel by reason of the noise that it maketh. Other some dwelling in *Helvetia*, do call it *Hermelin*, and some do call it by a corrupt word *Hamlin*, but those ought only to be named so which are altogether white, and are found in Winter time. But here in England it is called a *Weasell*, and some do write it *Wesyl*, or *Weasyl*: But the white Weasel is called *Minever*, by the transposition of the letters of the French word, it is called *Hermine*, and among the *Illyrians*, *Kolczanna*.

Some do think at this day, that the beast whose shape and form we have given for a Weasel, is the Shrew-mouse, but not rightly, for their only reason is, that the bitings of it doth poyson and harm almost in like manner. *Albertus* also doth write, that the Sea Weasel is called the field-Shrew, which is utterly false and untrue: For the Shrew is called among the Grecians, *Mygale*, male or female. They do now also commonly call *Ichneumon* the Indian Mouse, and other some the fallow Deer: But *Damula*, or *Donula*, is of the Italians and some later barbarous Writers, altogether called a common Weasel, and not *Ichneumon*, which is a peculiar beast to the Egyptians.

Now the reason of the *Latine* name *Mustela*, *Carolus Figulus* is of opinion, that it is derived of *Mys Niphus* and *Stelio*, two Greek words, because it devoureth Mice, and both the Germans and the English derive their word *Steal*, or *Stellen*, to rob or filch, from the Greek word *Stellein*: so that it is so called, because this Weasel is a still, and secret, stealing, and devouring beast. *Calepin* saith, that *Mustela* is quasi longior *Mus*. This beast is also called by *Aristotle*, *Habeninum*, and it is said, that it hunteth Moles or blinde Mice.

The Epithets hereof are, fearfull, in-creeper, and swift, and beside these I finde not any materiall, or worthy to be rehearsed. Now concerning their outward proportion, it is as we have here described, a long and thin body, but the colour thereof varieth; for some of them are brown, and branded, some black, and some clean white, which we have shewed already to be the *Ermyn*: for in some places of Germany, *Helvetia*, and the *Alpes*, the Weasels in the Winter become all white. But forasmuch as there are two kinds of Weasels, one vulgar and domesticall, living in houses and Cities, and the other wilde, living in the Woods and Mountains: we finde also that they differ in colour, neither of both being constant in the same; for the domesticall Weasel is upon the back, and side sandy, red, and sometime yellowish, and alwayes white on the throat, yea, sometimes as *Geor. Agricola* writeth, they are all white, whereat no man ought to wonder, seeing the Hares of *Helvetia* do in the Winter time turn white: And of these white Weasels or *Ermyns* there are abundance in the Northern parts of Europe, where their Summers are short, and their Winters long: And these white Weasels differ nothing from the common vulgar Weasels of other colours, except that their hair stick faster to their backs; and it is observed, that in *Russia* the Noblest women are apparelled with these skins: And there is a Wood in *Scandinavia* (called *Lanzerucca*) which is fourscore mile long, wherein are abundance of white Weasels: And the Kings tents among the *Tartarians* are said to be covered all over with the skins of Lyons without, and the walls to be hung with these *Armins* or white Weasels within; and although the price of these skins be very deer among them (for sometimes so many as are used in one Garment will cost two thousand Crowns) yet do the people earnestly seek after them, accounting it no small honour, to wear so much wealth upon their backs.

Now the reason why these beasts came to be called *Armini*, is from *Armilla* a chain, because they did wear them in fringes about their garments like chains; and although that some of the Alpine Mice be all white, and likewise the Pontique Mouse, yet there must be a difference observed betwixt these Weasels which are properly called *Armins*, and those Mice which are so called, only by way of resemblance, as we have shewed already in their stories. And of the Pontique Mouse, I may adde thus much more, that they live in the Winter time in hollow trees, wherein they become as white as snow all over, except their tails, and are in quantity like Squirrels, but in the end of May they turn somewhat red, because that then they give themselves to copulation and generation of young ones, when they lay aside their whitenesse, and live many dayes together in carnall copulation,

lation, among the green and fresh herbs, leaving behinde them such rank and unfavoury smells, as are very odious to a good sent: And it is said, that every three year their skins through abundance of food grow greater and greater, to the exceeding commodity of Merchants, and Skinners in Norway, and Helsingia.

Of the Lemmar.

There are certain little four-footed beasts called *Lemmar*, or *Lemmus*, which in tempestuous and rainy weather, do seem to fall down from the clouds, and it was never yet found, whether their beginning arose first from heaven or earth, but this is certain that as soon as ever they have fallen to the ground, some of them have been opened, and in their bowels have been found green herbs, and therefore I marvel why ever it should be beleaved that these beasts are bred of some feculent matter in the clouds; but if any man ask me from whence then have they their beginning, I answer from the earth, even as Locusts and Catterpillers, who are said in holy Scripture to be carryed to and fro with the windes, and so these beasts being destitute of naturall food in their places of generation, do advance themselves into the winde, and so are carried into other strange and unknown Countreys, where they fall like Locusts upon every green thing, living untill they have devoured all, but when once they taste of new grown herbs, they perish and die, by means whereof they encrease great pestilence and corruption, but the *Armins* or *Armins* do eat and devour them.

Now the Skins of these beasts are exceeding delicate having in them divers colours, and therefore the people flea them off from their bodies, and sell them by thirty or forty in bundles, for great price; but of these skins I have said enough, both here and elsewhere. The wilde Weasels differ not from the vulgar domesticall Weasel, their foreteeth are short and not long like a Mouses, the face broad, their genital part like a Foxes, their tail short, their legs and claws short, strong and sharp; and it is reported by *Strabo*, that the Weasels of *Mauritania* are as big as Cats, but their gaping and opening of their mouth much longer, and wider. There is an Island called *Dordocelena*, on the one side whereof (as *Pliny* writeth) there are Weasels, and through the middle there is a way over which they never passe, and on the other side there are not only not any bred, but also if they be brought into it, they die and perish, and so likewise it is reported of *Beotia*.

Places of their abode.

They make themselves caves and holes in the earth, rocks, and walls, wherein they lodge, into the which they frame two passages or doors, one into the South, the other into the North, (resembling herein the Squirrels) that so they may be free from the winde, on which side soever it bloweth, sometimes they get into stacks of Hay and straw, and there they lodge: those Weasels which live neer houses sleep not much, for they have been seen abroad all the Winter time, not only the vulgar but the *Armins*: neither are they unthankfull unto the Countrey men in whose houses they lodge, for they kill, eat, and devour all manner of Mice, Rats, and Moles; for because of their long, slender bodies, they are apt to creep into the holes of the earth, and narrow passages, fetching their prey from those places whither Cats cannot come; therefore in *Helvetia* the Countrey men nourish them more then Cats, because they destroy more vermin then Cats. The harm they do is to Hens, Chickens, and Eggs, and yet some say they eat the Eggs and let the Hens alone: they are likewise enemies to Geese, and devour their Eggs; and *Aelianus* writeth, that if they come unto dead men, they will pull out their eyes in such manner as they do Eggs, and therefore such Carkases are to be watched against them. *Amyntas* writeth, that the Shrew-mouse is conceived betwixt a Mouse and a Weasel, which opinion is not only ridiculous, but impossible, for how is it likely that a Mouse will ingender with that beast which lyeth in wait to destroy her? It is also said, that a Weasel fighteth with those Serpents that hunt after Mice, for no other cause, but to gain the prey from him.

Their copulation and conception.

There is nothing in this beast more strange, then their conception and generation, for they do not engender nor couple in their hinder parts, like other four-footed beasts, but at their ears, and bring forth their young ones at their mouth, and for this cause *Aristeas* writeth, the *Jewes* were forbidden to eat them, for this their action was an emblem of folly, and of foolish men, which can keep no secrets, but utter all that they hear (thus saith he) But we that are Christians knew other reasons why the *Jewes* were forbid to eat them. The *Egyptians* make of it another sign, for they say, that their copulation at the ear, and generation at the mouth, are emblems of speech which is first taught to the ear, and then uttered by the tongue: there be other again that hold this to be a fable: And Pope *Clement* writeth, that they conceive at the mouth, and bring forth at the ear. Many say, it is true of the Weasel of the Sea, but not of the Weasel of the earth, which is therefore called *Collipara*, and this they would confirm by another fable of *Medusa*, whose head after it was cut off, it is said to bring forth *Chrysaor* and *Pegasus*; some do alledge for this opinion, that the Crowes and the *Ibis* do conceive at their mouths: but this is certain, that they have places of conception underneath their tails like other four-footed beasts, and therefore how it should come to passe, that their young ones should come forth at their mouths, I cannot easily learn. It may be that the opinion thereof first arose from the sight of some old one carrying her young in her mouth, for the young ones are very small like Mice, and therefore it is likely that they remove them to and fro, as Cats do their young ones, for they are in continuall fear, lest they should be taken and destroyed by men, or by some other enemy beast.

The dung of Weasels doth smell many times like musk, the reason whereof we have shewed you in another place, all of them in generall have a most rank and filthy favour. It is a ravening and destroying beast; and although the body of it be very small, yet is the wit and understanding of it very

very great, for with singular art and subtilty it compasseth his prey, whereupon there lyeth this history of *Galanthis* the maid of *Alcmena*, as *Perottus* observeth out of *Ovid*. When *Alcmena* was in long travel and childe-birth, it is said that the maid perceiving she was hindered by *Lucina*, craftily obtained not only the knowledge of the cause by *Lucina*, but also the remedy; whereupon she eased her Lady, (like a true and faithfull servant) of many pains. *Lucina* seeing that she was beguiled by *Galanthis*, and that her crafty wit had over-reached a Goddesse, she turned her into a Weasel, for her punishment, that as she had sinned by revealing of the counsell of the Goddes, so she should be punished to bring forth all her young ones at her mouth, as Weasels do; and for this occasion, the Domesticall Weasel like a Maid doth continually live in houses, and her colour yellowish like the hair of *Galanthis*: thus say they of metamorphosing and transforming.

Other some say, that when *Alcmena* was in travail of *Hercules*, having indured long torments, she was delivered by the sight of a Weasel which came in her presence, and therefore the *Theban Grecians* do religiously worship a Weasel, for they say, that as it was nourisht by *Hecate* the Goddesse, so it did nourish *Hercules*; but herein they take *Gale* for *Galanthis* afore said, that is, a Weasel, for *Alcmena's* maid: And seeing we have begun to talk of transformations, I will adde another thing out of *Stobæus*, not impertinent to this common place, for he writeth in the dispraise of women, that the diversity of their dispositions perswadeth him that some of them are derived from one beast, and some from another: and namely those which come of Weasels, are a miserable, fullen, and sorrowfull kinde of women, to whom nothing is pleasing, delightfull, or acceptable, but having no minde to the pleasure of *Venus*, loathing her husband, hurteth her neighbours, robbeth her self, and devoureth consecrated and hallowed things, even after the manner of Weasels, which will take a booty from the Altar: Thus saith he, which I beleive to be true in the comparison, but not in the generation or transmutation of women from Weasels.

I do marvail how it came to passe, that a Weasel was called, an unhappy, unfortunate, and unlucky beast among Hunters, for they held opinion here in *England*, that if they meet with a Weasel in the morning, they shall not speed well that day; therefore the *Grecians* say *Galesteir*, and *Alciatus* hath an excellent Emblem, whereby he insinuateth that it is not good to have a Weasel run upon ones left hand, and therefore adviseth a man to give over his enterprize after such an Omen. Now although I would have no wise man to stand in fear of such a superstitious conceit, yet I will subscribe his verses, more for variety and elegancy, then for truth:

The significance of a Weasels occurrence.

*Auspiciis res capta malis bene cedere nescit:
Fœlici quæ sunt omine facta, juvant.
Quicquid ages, Mustela tibi si occurrer, omitte:
Signa male hæc sortis bestia prava gerit.*

It should seem that the beginning of this opinion did come from the punishment of a certain Generall of the *Corinthians* Navy, who being perjured in breaking his faith to that State, came running away from them; and they say, that afterwards he could never sleep, but that he dreamed Weasels came and tore his flesh from his body: At last through anguish and grief of minde, he slew himself. These things are reported by *Heraclides*, which whether they be true or false, are but a silly and slender foundation to build upon them a Propheticall opinion, or presage future evils; and so I will leave the morall part of the Weasel, and return again to the naturall. They have knowledge like Mice and Rats, to run out of houses before their downfall. They live in hatred with the Serpent that hunteth Mice, for by eating of Rue they drive them out of houses wherein they inhabit; and this is a wonderfull work of God, that this silly beast should have the knowledge of the vertue of that herb, and not only arm her self with it, because it is hatefull to Serpents, and they in no wise in nature able to abide it, but also by it to restore to life again her young ones after they are dead.

There is a poyson in Weasels which destroyeth the Cockatrice, for when the Weasel findeth the Cockatrices hole or den, she layeth her poyson in the mouth thereof, whereby two contrary natures meet and fight, and the lesser overcometh the greater; and this is affirmed both by *Pliny* and *Solinus*; wherefore all manner of Cattle do fear Weasels. They hunt all manner of birds, pulling out their throat as a Wolf doth a Sheeps. They will play with Hares till they have wearyed them, and then destroy them; they are in perpetuall enmity with Swine, Ravens, Crows, and Cats, for although Cats sometimes set upon them, yet they cannot overcome them. In many places of *Italy* they are nourished tame, for as Ferrets are used to fetch Conies out of the earth, so are Weasels by tying a string about their neck, to fetch young Pigeons out of Dove-cotes, and birds out of their nests. If the powder of a Weasel be given unto a Cock, Chickens, or Pigeons, it is said, they shall never be annoyed by Weasels.

Likewise if the brain of a Weasel be mingled with a rennet in Cheeses, it keepeth them from being touched with mice or corrupted with age. The flesh of a Weasel is not used for meat, but dried and preserved for medicines. The powder thereof mixed with water, driveth away Mice, by casting the gall of *Stellius* in a house where Weasels are gathered together, and then by Oyl of bitter Almonds, or salt Ammoniak they are killed, but if one of their tails be cut off, all the residue do forsake the house. And thus much shall suffice concerning the History of Weasels, now followeth the medicines arising out of their bodies.

The Medicines arising from the Weasel.

U. sinus.

A Weasel being applyed unto those which are troubled with Agues or Quartern Feavers, doth in short time cure them. It doth also being mingled with other things make a wonderfull pleasant mollifying medicine for those which are troubled with the gout, or any other infirmity in the joynts, and easeth those which have a continuall ache in the head, leaving a certain matter on the top thereof, and stroaking it from the forehead to the hinder part of the head.

Ætius.

For the curing also of the gout, this is an excellent remedy. To take a little young whelp alive, well fattened, and a living VVeasel in nine pints of Oyl, and unto the same two or three pounds of Butter, and to boyl them together, untill the beasts be made lank or lithier, and then to put your hands or feet a whole day in hot Oyl well strained. *Avicenna* attributeth certain things to VVeasels flesh only, which the classically Authors rather ascribe to the powder of VVeasels which are these: to be applyed to the gout, being drunk in wine against the Falling sicknesse, and the head-ache, but it is accounted an especiall remedy against the bitings of Scorpions.

Avicenna.

The flesh of a VVeasel being taken is a very good and effectually preservative against all poysons. The same being taken in meat, the head and feet only cast away, doth help those which are troubled with wens or bunches in the flesh, being first anoynted with the blood of the same beast. The blood of a VVeasel is very well applyed to broken or exulcerated sores in the flesh. The same vertue hath the whole body of a Weasel, boyled in wine, being in the manner of a plaister placed thereunto. For the expelling of the gout take a dead Weasel, and boyl him in Oyl, untill it be made liquid, then strain forth the Oyl, and mingle it with wax, fashioning the same in the form of a plaister, and this being in good order applyed, will in very short time expell it quite away.

Theophrastus.

A house Weasel is wont to be burned for divers remedies, and to be embowelled with salt, and dried in a shade. But there are some late writers which affirm, that a Weasel is better being dried or burned for the said disease, then used in the aforesaid manner, some also which are more foolish, think it best, being only salted, but it is more proper, being used in the first manner.

Dioscorides.

The bodies of creatures which are dry by nature being dried by the sprinkling of salt upon them, are unmeet for food, for a certain man going about to salt a Hare, made it like unto a dried VVeasel. Some have writen that the flesh of a Hedge-hog dried, doth very much profit those which are troubled with an outward or inward leprosie: which if it can effect, it will more strongly have a drying force or power: even as the flesh of a VVeasel being dried, and drunk in wine, expelleth poyson. A vulgar VVeasel being kept very old, and drunk in wine, to the quantity of two drams, is accounted a present remedy against the venom or stings of Serpents.

Galen.

A young VVeasel being prepared, as is before said, that is to say embowelled with salt, is of good force against all ill medicines. A VVeasel used in the same manner doth presently cure the bites of Serpents. A VVeasel being burnt and dried, especially the belly thereof, is accounted an excellent remedy against the bitings of any other wilde beast. Some small part of the belly of a young VVeasel, to the quantity of two drams being stuffed with Coriander, and drunk in wine, is given to those that are smitten by Serpents, and is curable for them. The flesh of a VVeasel being burnt, mingled with Rue and wine, and so drunk, is very medicinable for the curing of the bites of all creatures. The young whelps of VVeasels being imbowed with salt, is very profitable for the healing of the deadly stinging or biting of the Spider called *Phalangium*.

Pliny.

Albertus.

The whelp of a Weasel doth cure the venomous bitings of the Shrew. The flesh of a Weasel being dried, doth strongly drie and separate, by both which forces those are healed which are troubled with the Falling sicknesse having drunk it in wine. This vertue is also attributed unto the blood of Weasels. A Weasel being dried and drunk in wine, doth heal those that are troubled with the Palsie or shaking of the joynts. Concerning the powder of Weasels, there are many things read: But *Galen* writeth, that he never burned this creature, that he might try the excellency thereof. The blood and powder of a Weasel are very profitable, being anoynted on those whose bodies are vexed with the leprosie, according to the saying of *Serenus* in these verses;

Serenus.

Elephanti

*Morbo adversus erit cedri de cortice succus,
Mustelave cinis vel fusus sanguis ab illa.*

Myresus.

The powder of a Weasel being mingled with the blood of a young Swallow doth heal the Quinsie or Squinsie, the inflammation of the jawes, as also those which are grieved with the strangury, being either taken in bread or in drink. The same is also very effectually for the expelling of wens or bunches in the body, and healeth those which are troubled with the Falling sicknesse, being dayly taken in drink. The same diseases are both healed by this medicine, to burn a living Weasel altogether in an earthen pot, and to mingle with the powder thereof Hony, Turpentine, and Butter, of each a sufficient quantity, and in the manner of an Oyntment, to apply it unto the bodies of the grieved parties. The blood of a Swallow and a Weasel are commended by some to be very congruent and agreeable, but *Pliny*, *Avicenna*, and the rest of the antient writers commend the blood of a Weasel only to be very medicinable for these diseases following; namely, the Falling sickness, the Foul evil, and the head-ache.

The

The powder of a Weasel being mingled in water, and given to one that is mad or frenzy to drink, *Pliny.* is reported by some to be very good and profitable for him, if so be that they can compell the frantick person to perceive it. The powder of a Weasel is very effectually for the expelling or taking away of the pin and web in the eyes. There is a speedy remedy for the driving away of rheum in the head, and the Catarrh swelling by rheum in the jawes, which is this, To take a Weasel upon a Thursday in the old Moon, and put him alive in an unburned pot, that in the Boyling he may be torn, and dried into powder, which powder being gathered together and well tempered with Hony, to give it to the diseased person every day in a spoon fasting, to the quantity of three drams, and it will in short space wonderfully ease him.

A Weasel being burnt, and the powder thereof wrapped in some sear-cloth which is anoynted over with the Oyl of Flower-deluces, doth help and heal all sores or impostumes proceeding from the head to the ears, being applyed thereunto. A VVeasel being beaten to powder, mingled with *Galen.* wax, and in the manner of a sear-cloth applyed unto the shoulders, doth expell all pains, aches, or griefs therein whatsoever; it doth also purge or cleanse sores very effectually, according to these Verses of *Serenus* following;

*Obscenos si pone locos nova vulnera carpant,
Horrentum marisa curantur fronde ruborum.
Et si jam veteri succedit fistula morbo,
Mustela cinere immisso purgabitur ulcus,
Sanguine cum ricini, quem bos gestaverit ante.*

A VVeasel being burned in an earthen pot, is very medicinable for the curing of the gout. The powder thereof being mingled with Vinegar, and in that manner thereunto applyed. The *Dioscorides.* dust of a living VVeasel burnt, mingled with wax Rose-water, and anoynted with a Feather upon gouty legs, cureth the same disease. The brain of a VVeasel being kept very long, and thoroughly dried, afterwards mingled with Vinegar, and so drunk, doth very effectually cure the falling sickness.

The brains of a Camel mingled with the brains of a VVeasel, being both well dried, and drunk *Rasis.* in Vinegar, speedily helpeth those which are troubled with the disease called the Foul evil. If a horse shall fall into a suddain disease (being for the most part termed dangerous) which our Countrey-men call *Ræch*, concerning which I have spoken in the Horse, he is cured by some Horse-courfers by a small quantity of a VVeasels skin, being about the bignesse of a foresaid golden Crown) which is given to him inwardly, whether in a potion by some horn, or cut small and mingled with chaffe, I know not. Some do give to the Horses troubled with the aforesaid disease the tail of a white VVeasel being half black, and half white, cut exceeding small in their chaffe or provender. If a Serpent or any other venomous creature shall sting or bite an Oxe, let the wounded place be stroked or smoothed with the skin of a VVeasel, and it shall in short time be perfectly cured. The same they do in a manner command to be done to Horses which are so stung or bitten, rubbing the wound with a Weasels skin untill it wax hot, ministring in the mean time some certain Antidote within the Horses body. There are some also which are of opinion that the skin being in the said manner applyed, is of no efficacy, but that the whole beast being cut and applyed while it is hot, will rather profit, which both in a Shrew, as also in many other creatures is manifest.

The blood of a Weasel being anoynted upon any impostume arising behinde the ear, doth instantly cause the swelling to cease, or being broken, doth speedily heal the sore. The same also being anoynted upon any impostumes in the head either whole or broken, doth very effectually cure them. The blood of a Weasel being anoynted upon wens or bunches of flesh in any part of the body doth instantly expell them. The same doth also help those which are troubled with the Falling sickness: which disease is also cured by the whole body of a VVeasel either burnt or embowelled with salt. The head and feet of a VVeasel being cast away, and the body taken in any kinde of drink, doth perfectly heal those which are troubled with that pestiferous disease called *S. Johns* evil. The blood of the same same beast is an excellent remedy for the expelling of the foul evil. The blood of a Weasel being anoynted upon broken or exulcerated bunches in the flesh, doth not only mitigate the pain, but also heal the wounds. The blood of a Weasel being anoynted upon the jawes, doth heal all pains or sores therein whatsoever. The powder and blood of a Weasel being both mingled together, and anoynted upon the body of any leprous man, doth in short time drive away all scabs or scurfs thereon. The blood of a VVeasel being anoynted with a Plantain upon the legs or feet of any one that is troubled with the gout, doth very speedily mitigate or assuage the pain thereof. The same being anoynted upon the nervs or sinewes which are shrunk together, doth easily mollifie them again, and loosen the grievous pain either in the joynts or articles. The liver of a VVeasel mingled with his own brains, being both well dried, and taken in any kinde of drink, doth very much profit those which are troubled with the disease called *S. Johns* evil. The liver of a VVeasel, being throughly dried, and afterwards taken in water to drink, doth heal the disease called the Foul evil, taking hold of sense and minde together: but there must great care be had that this medicine be ministring unto the sick party, even when the disease is coming on him. The gall of a Hare being mingled with the liver of a VVeasel to the quantity of three drams, one dram of Oyl of Beavers stones, four drams of Myrrhe, with one dram of Vinegar, and

Sextus.

Pliny.

Kiranides.

Æginetta.

Avicenna.

Ælianus.

and drunk in hony, or bastard wine, doth heal those which are troubled with a dizzinesse or certain swimming in the head. The liver of a Weasel is reported to be very good and medicinable for the curing of the Lethargy, or Dropsie evil. The liver of a Weasel being bound to the left foot of a woman, doth altogether hinder her from conception. The gall of a Weasel is a very excellent and effectuell remedy against the venom or poyson of Asps, being taken in any kinde of drink. The yard of a Weasel, Hart, or Doe, being dried, and beaten to powder, and taken in wine, or any other drink, is an excellent medicine for the curing of the bites or stings of Serpents. The yard of a Weasel or Ferret, is commended for a very excellent remedy against the strangury, or disease called the Colick and stone. The stones of a male Weasel, or the secret parts of a female Weasel, is reported by some to be very medicinable for the curing of the Falling sicknesse. The stones of a Weasel being bound unto any part of a woman while she is in travail of childe birth, doth altogether hinder her from her delivery. By the left stone of a Weasel being bound in a piece of a Mules hide, there is a certain medicine made, which being drunk by any woman not being with childe, causeth barrennesse, as also by women being with childe, hard and grievous pain in delivery. The efficacy or force in them, have the stones of a Weasel being cut off in the change of the Moon, and he suffered to go away alive, being tied upon any part of a woman in the hide of a Mule. The heel of a living Weasel being taken away and bound unto a woman, doth make her that she shall not conceive so long as she shall so bear it. The powder of a Dogs head dried, being put into any broken or exulcerated sores, doth eat away all the corruption or dead flesh encreasing therein. The same vertue hath the powder of Weasels dung, being used in the said manner.

The dung of Mice or of a Weasel, being anoynted upon the head, is an excellent remedy for the falling off of the hair on the head, or any other part of mans body, and doth also cure the disease called by some the Foxes evil. The biting of a Weasel is reported by some to be very venomous, and in his ravening or madnesse not to be lesse hurtfull then the bitings of mad Dogs. For Weasels and Foxes are very often mad. But *Arnoldus* is of a contrary opinion, and affirmeth that the Weasel doth more hurt by his biting, then by any venom he can put forth. Others also do affirm, that there is venom in Weasels for this cause, that in all kinde of Weasels when they are angry, the force of their smell is so rank and strong. The best way to drive away Mice, is by scattering the powder of Weasels or Cats dung up and down, the savour whereof Mice cannot abide, but the same being made into some certain kinde of bread will smell more strongly. That the bites of a Weasel are venomous and deadly, there is an example written by *Aristides*, of a certain man, who being bitten by a Weasel, and ready to die, gave a great sigh, and said, that if he had died by a Lyon or Panther, it would never have grieved him, but to die by the biting of such an ignoble beast, it grieved him worse then his death. The biting of a Weasel doth bring very quick and grievous pain, which is only known by the colour, being dusky or blewish: and it is cured by Onions and Garlick, either applyed outward, or taken in drink, so that the party drink sweet wine thereon. Unripe Figs also mingled with the flour of the grain called *Orobos*, doth much profit the same. Treacle in like manner being applyed in the manner of a plaister, speedily cureth them. Garlick being mingled with Fig-tree leaves and Cinamon, and so beaten together, are very well applyed to the said bites. It cometh also to passe, that sometimes the Weasel biteth some Cattell, which presently killeth them, except there be some instant remedy. The remedy for it is this, to rub the wounded place with a piece of a Weasels skin well dryed untill it waxe hot, and in the mean time give the best Treacle to drink in the manner of an antidote. The Weasel usually biteth Cowes dugs, which when they are swollen if they be rubbed with a Weasels skin they are instantly healed.

Of the WOLF.



The severall
names.
Æsculapius.

A Wolf is called in Hebrew *Zeeb*, as it is said in *Gen. 49.* and among the *Chaldeans*, *Deeba* and *Deba*, among the *Arabians* *Dib*. The female is called *Zebab* a she-Wolf, and the masculine *Zee-bim*, but in *Ezek. 22.* it is called *Zebeth*, that is to say, a Wolf. *Allebba* (saith *And. Bellun.*) is a common name for all Four-footed beasts which do set on men, killing and tearing them in pieces, devouring

devouring them with their teeth and claws, as a Lyon, a Wolf, a Tiger, and such like, whereon they are said to have the behaviour of *Alsebbas*, that is, wilde beasts which are fierce and cruel. From hence happily cometh it, that not only *Albertus*, but also some ignorant Writers do attribute unto a Wolf many things which *Aristotle* hath uttered concerning a Lyon.

Oppianus among the other kinde of Wolves hath demonstrated one which is bred in *Cilicia*. And also he doth write, that it is called in the mountains of *Taurus* and *Amannus*, *Chryseon*, that is to say, *Aureum*, but I conjecture that in those places it was called after the language of the *Hebrewes* or *Syrians* which do call *Sabab*, or *Schab aurum*, and *Seeb Lupum* for a Wolf, or *Dahab*, or *Debab* for *Aurum*: They also do call *Deb* or *Deeba* for a Wolf: *Dib* (othertherwise *Dijb*) is an *Arabian* or *Sageneian* word: Also the translation of this word in the book of medicines is divers, as *Adib*, *Adep*, *Adhip*, and *Aldip*: but I have preferred the last translation, which also *Bellunensis* doth use. *Aldip Alambat* doth signifie a mad or furious Wolf. The Wolf which *Oppianus* doth call *Aureum*, as I have said even now, doth seem to agree to this kinde, both by signification of the name *Aurum*, and also by the nature, because it doth go under a Dog close to the earth, to eschew the heat of the Summer, which *Oppianus* doth write, doth seek his food out of hollow places, as a Hyena or *Dabb* doth out of graves where the dead men are buried. The golden coloured Wolf is also more rough and hairy then the residue, even as the Hyena is said to be rough and maned. And also these Wolves necks in *India* are maned, but it differeth according to the nation and colour where there are any Wolves at all.

Lycos a Wolf among the *Grecians*, and *Lugos*, and *Lucania*, and *Lycos*, among some of the *Arabian* Writers, is borrowed from them, as *Munster* hath noted in his *Lexicon* of three languages. In *Italy* it is called *Lupo*. In *French* *Loup*, in *Spain* *Lobo*, in *Germany* *Vulff*, in *England* *Wolf*. In *Illyria* *Vulk*, as it were by a transposition of the letters of the *Greek* word. Now because both men, women, Cities, places, Mountains, Villages, and many artificiall instruments have their names from the *Latine* and *Greek* words of this beast, it is not vaine or idle to touch both them and the derivation of them, before we proceed to the naturall story of this beast. *Lupus* as some say in *Latine* is *Quasi* *Leopos*, Lyon-footed; because that it resembleth a Lyon in his feet, and therefore *Isidorus* writeth, that nothing liveth that it presseth or treadeth upon in wrath. Other derive it from *Lukes*, the light, because in the twilight of the evening or morning it devoureth his prey, avoiding both extreme light, as the noon day, and also extreme darknesse as the night. The *Grecians* do also call them *Nycterinoi canes*, dogs of the night. *Lupa* and *lupula* were the names of noble devouring Harlots, and from thenceforth cometh *Lupanar* for the stews. It is doubtfull whether the nurse of *Romulus* and *Remus* were a Harlot, or she-wolf, I rather think it was a Harlot then a Wolf that nursed those children. For we read of the wife of *Fostulus*, which was called *Laurentia*, after she had played the whore with certain Shepherds was called *Lupa*. In all Nations there are some mens names derived from Wolves, therefore we read of *Lupus* a *Roman* Poet, *Lupus Servatus* a Priest or Elder, of *Lupus de Oliveto* a *Spanish* Monk, of *Fulvus Lupinus* a *Roman*, and the *Germans* have *Vulf*, *Vulfe*, *Hart*, *Vulfegang*.

The *Grecians* have *Lycambes*, of whom it is reported he had a daughter called *Neobole*, which he promised in marriage to *Archilochus* the Poet, yet afterwards he repented and would not perform his promise, for which cause the Poet wrote against him many bitter Verses, and therefore *Lycambes* when he came to knowledge of them, dyed for grief. *Lycæon* was a common name among the *Grecians* for many men, as *Lycæon Gnotius* an excellent maker of edged tools. *Lycæon* the brother of *Nestor* another, the son of *Priamus* slain by *Achilles*: But the famous and notorious among all, was *Lycæon*, the King of *Arcadia*, the son of *Titan* and the earth, whose Daughter *Calisto* was deflowred by *Jupiter*, and by *Juno* turned into a Bear, whom afterwards *Juno* pitying, placed for a sign in heaven, and of whom *Virgil* made this Verse;

Pleiadas, Hyadas, claramque Lycæonis Arcton.

There was another *Lycæon* the son of *Pelæsus*, which built the City *Lycosui*, in the Mountain *Lyceus*, this man called *Jupiter Lyceus*, upon a time sacrificed an Infant upon his Altar, after which sacrifice he was presently turned into a Wolf. There was another *Lycæon* after him, who did likewise sacrifice another childe, and it was said, that he remained ten years a Wolf, and afterwards became a man again: whereof the reason was given, that during the time he remained a beast, he never tasted of mans flesh, but if he had tasted thereof he should have remained a beast for ever. I might adde hereunto *Lycophron*, *Lycastus*, *Lycimnius*, *Lycinus*, *Lycomedes*, *Lycurgus*, *Lycus*, and of womens names, *Lycæa*, *Lyce*, *Lycaste*, *Lycoris*, *Lycias*, and many such others, besides the names of people, as *Ipinia*, of Mountains and places, as *Lycabetus*, *Lyceus*, *Lycæna*, *Lycæonia*, *Lycæspus*, *Lycæum* *Aristotles* School. Of founts and Rivers, as *Lycus*, *Lycormis*. Of Plants, as *Wolfbane*, *Lupum salicarium*, *Lupinus*, *Lycanthemum*, *Lycophrix*, *Lycophone*, *Lycopsis*, *Lycocitation*, and many such others, whereof I have only desired to give the Reader a taste, following the same method that we have observed in other beasts: And thus much shall suffice to have spoken of the names of this beast.

The Countreys breeding Wolves, are for the most part these that follow. The inhabitants of *Crete* were wont to say, that there was neither Wolves, Bears, nor Vipers could be bred in their Island, because *Jupiter* was born there; yet there is in a City called *Lycastus*, (so named for the multitude of Wolves that were abiding therein.) It is likewise affirmed of *Sardinia*, and *Olympus*.

a Mountain of *Macedonia*, that there come no Wolves in them. The Wolves of *Egypt* are lesse then the Wolves of *Greece*, for they exceed not the quantity of Foxes. *Africa* likewise breedeth small Wolves, they abound in *Arabia*, *Suevia*, *Rhetia*, *Atbesis*, and the Earldome of *Tyrol* in *Muscovia*, especially that part that bordereth upon *Lituania*. The Wolves of *Scanzia*, by reason of extremity of cold in those parts, are blinde and lose their eyes: There are no Wolves bred in *Lombardy* beyond the *Alpes*, and if any chance to come into that Countrey, presently they ring their Bells, and arm themselves against them, never giving over till they have killed him, or drove him out of the Countrey. In *Norway* there are three kinde of Wolves, and in *Scandinavia* the Wolves fight with Elks. It is reported that there are Wolves in *Italy*, who when they look upon a man, cause him to be silent that he cannot speak. The *French* men call those Wolves which have eaten of the flesh of men *Encharnes*. Among the *Crotoniate* in *Meotis*, and divers other parts of the world, Wolves do abound: there are some few in *France*, but none at all in *England*, except such as are kept in the Tower of *London*, to be seen by the Prince and people, brought out of other Countreys, where there fell out a rare accident, namely, a Mastive Dog was limed to a she-Wolf, and she thereby conceived, and brought forth six or seven young Whelps, which was in the year of our Lord 1605. or thereabouts.

The severall
kinds of
Wolves.

There are divers kinds of Wolves in the world, whereof *Oppianus* in his admonition to Shepherds, maketh mention of five, the first is a swift Wolf, and runneth fast, called therefore *Toxenter*, that is, *Sagittarius*, a shooter. The second kinde are called *Harpages*, and these are the greatest raveners, to whom our Saviour Christ in the Gospel compareth false Prophets, when he saith, *Take heed of false Prophets which come unto you in Sheeps clothing, but are inwardly Lycos Harpages, ravening Wolves*; and these excell in this kinde. The third kinde is called *Lupus aureus* a golden Wolf, by reason of his colour; then they make mention of two other kinds, (called *Acmonæ*) and one of them peculiarly *læmus*.

Oppianus.

The first, which is swift, hath a greater head then other Wolves, and likewise greater legs fitted to run, white spots on the belly, round members, his colour betwixt red and yellow, he is very bold, howleth fearfully, having fiery-flaming eyes, and continually wagging his head. The second kinde hath a greater and larger body then this, being swifter then all other; betimes in the morning he being very hungry, goeth abroad to hunt his prey; the sides and tail are of a silver colour, he inhabiteth in the Mountains, except in the Winter time, wherein he descendeth to the gates of Cities or Towns, and boldly without fear killeth both Goats and Sheep, yet by stealth and secretly.

The third kinde inhabiteth the white Rocks of *Taurus* and *Silicia*, or the tops of the hill *Amannus*, and such other sharp and inaccessible places, being worthily for beauty preferred before the others, because of his golden resplendent hairs: and therefore my Author saith, *Non Lupus sed Lupoprestantior fera*. That he is not a Wolf, but some wilde beast excelling a Wolf. He is exceeding strong, especially being able with his mouth and teeth to bite asunder not only stones, but Brasse and Iron: He feareth the Dog star, and heat of Summer, rejoycing more in cold then in warm weather, therefore in the Dog dayes he hideth himself in some pit or gaping of the earth, untill that Sunny heat be abated. The fourth and fifth kinds are called by one common name *Acmonæ*, now *Acmon* signifieth an Eagle, or else an Instrument with a short neck, and it may be that these are so called in resemblance of the ravening Eagle, or else because their bodies are like to that instrument, for they have short necks, broad shoulders, rough legs and feet, and small snowts, and little eyes: herein they differ one kinde from the other, because that one of them hath a back of a silver colour, and a white belly, and the lower part of the feet black, and this is *læmus canus*, a gray Kite-wolf; the other is black, having a lesser body, his hair standing continually upright, and liveth by hunting of Hares. Now generally all Authors do make some two, some three, some four, and some five kinds of Wolves, all which is needlesse for me to prosecute, and therefore I will content my self with the only naming of such differences as are observed in them, and already expressed, except the *Thoes* and the sea-Wolf, of whom there shall be something said particularly in the end of this History. *Olaus Magnus* writeth, in his History of the Northern Regions, that in the Mountains called *Doffrini*, which do divide the Kingdomes of *Swetia* and *Norway*, there are great flocks or herds of Wolves of white colour, whereof some wander in the Mountains, and some in the vallies. They feed upon little, small, and weak creatures, but there are also wilde common Wolves, who lie in wait to destroy their herds of Cattell, and flocks of Sheep, against whom the people of the Countrey do ordain generall huntings, taking more care to destroy the young ones then the old, that so the breeders and hope of continuance may be taken away. And some also do keep of the Whelps alive, shutting of them up close and taming them, especially females, who afterwards engender with Dogs, whose Whelps are the most excellent keepers of flocks, and the most enemies to Wolves of all other.

Wolves are
not wilde
Dogs.

There be some have thought that Dogs and Wolves are one kinde; namely, that vulgar Dogs are tame Wolves, and ravening Wolves are wilde Dogs. But *Sealiger* hath learnedly confuted this opinion, shewing that they are two distinct kinds, not joyned together in nature, nor in any natural action, except by constraint; for he saith, that there are divers wild Dogs that are not Wolves, and so have continued for many years in a hill called *Mountfalcon*, altogether refusing the society and service of men, yea, sometimes killing and eating them; and they have neither the face, nor the voyce, nor the stature, nor the conditions of Wolves, for in their greatest extremity of hunger, they never set upon flocks of Sheep: so that it is unreasonable to affirm, that Wolves are wilde Dogs, although it must needs be confessed, that in outward proportion they are very like unto them.

Some

Some have thought that Wolves cannot bark, but that is false (as *Albertus* writeth) upon his own knowledge, the voyce of Wolves is called *Ululatus*, howling, according to these verses;

The voices of Wolves.

Ast Lupus ipse ululat, frendet agrestis aper;

And again:

Per noctem resonare Lupis ululantibus urbes.

It should seem that the word *Ululatus*, which the Germans translate *Heulen*, the French, *Hurler*; and we in English, howling, is derived either from imitation of the beasts voice; or from a night whooping Bird called *Uula*; I will not contend, but leave the Reader to either of both; for it may be that it cometh from the Greek word *Oluluzein*, which signifieth to mourn and howl after a lamentable manner, and so indeed Wolves do never howl, but when they are oppressed with famine: And thus, I leave the discourse of their voyce with the annotation of *Servius*: *Ululare Canum est & Furiarum*. To howl is the voyce of Dogs and Furies. Although there be great difference of colours in Wolves, as already I have shewed, yet most commonly they are gray and hoary, that is, white mixed with other colours, and therefore the Grecians in imitation thereof, do call their twy-light which is betwixt day and night, as it were participating of black and white *Lycophos*, Wolf-light, because the upper side of the Wolves hair is brown, and the neather part white. It is said, that the shaggy hair of a Wolf is full of vermin and worms, and it may well be, for it hath been proved, that the skin of a Sheep which was killed by a Wolf breedeth worms.

The brains of a Wolf do decrease and increase with the Moon, and their eyes are yellow, black, and very bright, sending forth beams like fire, and carrying in them apparent tokens of wrath and malice; and for this cause it is said, they see better in the night then in the day, being herein unlike unto men, that see better in the day then in the night, for reason giveth light to their eyes, and appetite to beasts, and therefore of ancient time the Wolf was dedicated to the Sun, for the quickness of his seeing sense, and because he seeth far. And such as is the quickness of his sense in seeing, such also it is in smelling, for it is reported, that in time of hunger by the benefit of the winde, he smelleth his prey a mile and a half or two mile off: for their teeth they are called *Charcharodontes*, that is sawed, yet they are smooth, sharp, and unequal, and therefore bite deep, as we have shewed already, for this cause the sharpest bits of Horses are called *Lupata*.

The several parts.

Calius.
Stumpfius.

All beasts that are devourers of flesh do open their mouths wide, that they may bite more strongly, and especially the Wolf. The neck of a Wolf standeth on a straight bone that cannot well bend, therefore like the Hyæna, when he would look backwards he must turn round about, the same neck is short, which argueth a treacherous nature. It is said that if the heart of a Wolf be kept dry, it rendreth a most fragrant or sweet smelling savour. The liver of a Wolf is like to a Horses hoof, and in the bladder there is called a certain stone call'd *Syrites*, being in colour like Saffron or Hony, yet inwardly contains certain weak shining stars: this is not the stone called *Syriacus* or *Indicus*, which is desired for the vertue of it against the stone in the bladder. The fore-feet have five distinct toes, and the hinder-feet but four, because the fore-feet serve in stead of hands, in Lions, Dogs, Wolves, and Panthers. We have spoken already of their celerity in running, and therefore they are not compared to Lions which go foot by foot, but unto the swiftest Dogs. It is said they will swim, and go into the water two by two, every one hanging upon anothers tail, which they take in their mouths, and therefore they are compared to the days of the year, which do successively follow one another, being therefore called *Lucabus*. For by this successive swimming they are better strengthened against impression of the floods, and not lost in the waters by any over-flowing waves or billows. Great is the voracity of this beast, for they are so insatiable that they devour hair and bones with the flesh which they eat, for which cause they render it whole again in their excrements, and therefore they never grow fat. It was well said of a learned man: *Lupus vorat potius quam comedit carnes, & pauco utitur potu*. That is, A Wolf is said rather to raven than to eat his meat.

The meat and voracity of Wolves.

When they are hungry they rage much, and although they be nourished tame, yet can they not abide any man to look upon them while they eat; when they are once satisfied, they endure hunger a great time, for their bellies standeth out, their tongue swelleth, their mouth is stopped, for when they have drove away their hunger with abundance of meat, they are unto men and beasts as meek as Lambs, till they be hungry again, neither are they moved to rapine, though they go through a flock of sheep: but in short time after, their bellies and tongue are calling for more meat, and then saith mine Author: *In antiquam figuram redit, iterumque Lupus existit*. That is, They return to their former conditions, and become as ravening as before. Neither ought this to seem strange unto any man, for the like things are formerly reported of the Lion; and it is said that Wolves are most dangerous to be met with all towards the evening, because of their fasting all the day before, and for this is alleadged the saying of holy Scripture where the Prophet makes mention of *Lupi Vespertini*, but we have shewed already in the story of the Hyæna, what those signifie.

Ælianus.
Philes.

It is said that Wolves do also eat a kinde of earth called *Argilla*, which they do not for hunger, but to make their bellies waigh heavy, to the intent, that when they set upon an Horse, an Ox, a Hart, an Elk, or some such strong beast, they may weigh the heavier, and hang fast at their throats till they have pilled them down; for by vertue of that tenacious earth, their teeth are sharpened, and the weight of their bodies encreased; but when they have killed the beast that they

Albertus.

they set upon, before they touch any part of his flesh, by a kinde of natural vomit, they disgorge themselves, and empty their bellies of the earth, as unprofitable food.

The remainder of their meat they always cover in the earth; and if there be many of them in hunting together, they equally divide the prey among them all, and sometimes it is said, that they howl and call their fellows to that feast which are absent, if their prey be plentiful. Now this they have common with Lions, in their greatest extremity of hunger, that when they have election of a man and a beast, they forsake the man and take the beast. Some are of opinion, that when they are old, they grow weary of their lives, and that therefore they come unto Cities and Villages, offering themselves to be killed by men, but this thing by the relation of *Niphus* is a very fable; for he professeth that he saw an old Wolf come into a Village, and set upon a Virgin to destroy and eat her, yet he was so old that he had scarce any teeth in his head, but by good hap company being at hand, the Maid was saved, and the Wolf was killed.

Now those Wolves that are most sluggish and least given to hunting, are most ready to venture upon men, because they love not to take much pains in getting their living. This Wolf is called *Vinipeta*, but the industrious hunting Wolf *Kunegiseia*. It is reported that a Wolf will never venture upon a living man, except he have formerly tasted of the flesh of a dead man, but of these things I have no certainty, but rather do believe the contrary; that like as Tyrants in an evill grieved estate, do pick quarrels against every man that is rich for the spoil of their goods, accounting them their enemies, how well soever they have deserved at their hands: In like manner, Wolves in the time of their hunger fall upon all creatures that come in the way, whether they be men or beasts, without partiality, to fill their bellies, and that especially in the winter time, wherein they are not afraid to come to Houses and Cities.

They devour Dogs when they get them alone, and Elks in the Kingdom of Norway, but for Dogs it hath been seen, that they have lived in a kinde of society and fellowship with Wolves, but it was to steal and devour in the night time, like as Thieves do cover their malice and secret grudges one to other, when they are going about to rob true men. Wolves are enemies to Asses, Bulls, and Foxes, for they feed upon their flesh, and there is no beast that they take more easily then an Ass, killing him without all danger, as we have shewed already in the story of an Ass.

They also devour Goats and Swine of all sorts, except Boars, who do not easily yeeld unto Wolves. It is said that a Sow hath resisted a Wolf, and that when he fighteth with her, he is forced to use his greatest craft and subtlety, leaping to and from her with his best activity, lest she should lay her teeth upon him, and so at one time deceive him of his prey, and deprive him of his life. It is reported of one that saw a Wolf in a Wood, take in his mouth a piece of Timber of some thirty or forty pound weight, and with that he did practise to leap over the trunk of a tree that lay upon the earth; at length when he perceived his own ability and dexterity in leaping with that weight in his mouth, he did there make his cave and lodged behinde that tree; at last it fortuned there came a wilde Sow to seek for meat along by that tree, with divers of her Pigs following her, of different age, some a year old, some half a year, and some less. When he saw them near him, he suddenly set upon one of them, which he conjectured was about the weight of wood which he carryed in his mouth, and when he had taken him, whilst the old Sow came to deliver her Pig at his first crying, he suddenly leaped over the tree with the Pig in his mouth, and so was the poor Sow beguiled of her young one, for she could not leap after him, and yet might stand and see the Wolf to eat the Pig which he had taken from her. It is also said, that when they will deceive Goats, they come unto them with the green leaves and small boughs of *Ofiers* in their mouths, wherewithal they know Goats are delighted, that so they may draw them therewith, as to a bait to devour them.

Their manner is when they fall upon a Goat or a Hog, or some such other Beast of small stature, not to kill them, but to lead them by the ear with all the speed they can drive them to their fellow Wolves, and if the beast be stubborn and will not run with him, then he beateth his hinder-parts with his tail, in the mean time holding his ear fast in his mouth, whereby he causeth the poor Beast to run as fast or faster then himself unto the place of his own execution, where he findeth a crew of ravening Wolves to entertain him, who at his first appearance seize upon him, and like Devils tear him in pieces in a moment, leaving nothing uneaten but only his bowels.

But if it be a Swine that is so gotten, then it is said, that they lead him to the waters, and there kill him, for if they eat him not out of cold water, their teeth doth burn with an intolerable heat. The Harts when they have lost their horns do lie in secret, feeding by night for fear of the Wolves, untill their horns do grow again, which are their chiefest defence. The least kinde of Wolves we have shewed already, do live upon the hunting of Hares, and generally all of them are enemies to sheep, for the foolish sheep in the day time is easily beguiled by the Wolf, who at the sight of the Sheep maketh an extraordinary noise with his foot, whereby he calleth the foolish Sheep unto him, for standing amazed at the noise he falleth into his mouth and is devoured: but when the Wolf in the night time cometh unto a fold of Sheep, he first of all compasseth it round about, watching both the Shepherd and the Dog, whether they be asleep or awake, for if they be present and like to resist, then he departeth without doing any harm, but if they be absent or asleep, then loseth he no opportunity, but entereth into the fold, and falleth a killing, never giving over till he have destroyed all, except he be hindered by the approach of one or other; for his manner is not to eat any till he have killed all, not because he feareth the over-livers will tell tales, but for that his

Tutor.
Albertus.

his insatiable minde thinketh he can never be satisfied, and then when all are slain he falleth to eat one of them.

Now although there be great difference betwixt him and a Bull both in strength and stature, yet is he not afraid to adventure combat, trusting in his policy more then his vigor, for when he setteth upon a Bull, he cometh not upon the front for fear of his horns, nor yet behinde him for fear of his heels, but first of all standeth aloof from him, with his glaring eyes, daring and provoking the Bull, making often proffers, to come near unto him, yet is wise enough to keep aloof till he spy his advantage, and then he leapeth suddenly upon the back of the Bull at the one side, and being so ascended, taketh such hold that he killeth the Beast before he loosen his teeth. It is also worth the observation, how he draweth unto him a Calf that wandereth from the dam, for by singular treachery he taketh him by the nose, first drawing him forward, and then the poor Beast striverth and draweth backward, and thus they struggle together, one pulling one way, and the other another, till at last the Wolf perceiving advantage, and feeling when the Calf pulleth heavyest, suddenly he letteth go his hold, whereby the poor Beast falleth back upon his buttocks, and so down right upon his back; then flyeth the Wolf to his belly which is then his upper part, and easily teareth out his bowels, so satisfying his hunger-greedy appetite: But if they chance to see a Beast in the water, or in the marsh, encombred with mire, they come round about him, stopping up all the passages where he should come out, baying at him, and threatening him, so as the poor distressed Ox plungeth himself many times over head and ears, or at the least wise they so vex him in the mire, that they never suffer him to come out alive. At last when they perceive him to be dead and clean without life by suffocation; it is notable to observe their singular subtilty to draw him out of the mire, whereby they may eat him; for one of them goeth in, and taketh the Beast by the tail, who draweth him with all the power he can, for wit without strength may better kill a live Beast, then remove a dead one out of the mire: therefore he looketh behinde him and calleth for more help, then presently another of the Wolfs taketh that first Wolfs tail in his mouth, and a third Wolf the seconds, a fourth the thirds, a fifth the fourths, and so forward, encreasing their strength, until they have pulled the Beast out into the dry land: whereby you may see, how they torment and stretch their own bodies, biting their tails mutually, pinching and straining every joynt until they have compassed their desire, and that no man should think it strange for a Wolf to kill an Ox; it is reported that *Danaus* did build a Temple to *Apollo* at *Argos*, in the very same place where he saw a Wolf destroy an Ox, because he received instruction thereby, that he should be King of *Greece*. Wolfs are also enemies to the Buffes, and this is no marvail, seeing that it is confidently reported by *Ælianus*, that in time of great famine when they get no meat, they destroy one another; for when they meet together, each one bemoaning himself to other, as it were by consent they run round in a circle, and that Wolf which is first giddy, being not able to stand, falleth down to the ground, and is devoured by the residue, for they tear him in pieces, before they can arise again.

Pliny affirmeth that there be Wolfs in *Italy*, whose sight is hurtful to men, for when a man seeth one of them, though he have never so much desire to cry out, yet he hath no power: but the meaning of this is, as we find in other Writers, that if a Wolf first see a man, the man is silent, and cannot speak, but if the man see the Wolf, the Wolf is silent and cannot cry, otherwise the tale is fabulous and superstitious, and thereupon came the proverb *Lupus in fabula est*, to signifie silence. Now although these things are reported by *Plato*, *Ruellius*, *Vincentius*, and *Ambrose*, yet I rather believe them to be fabulous then true, howbeit *Albertus* writeth, that when a man is in such extremity, if he have power to loose his cloak or garment from his back, he shall recover his voyce again. And *Sextus* saith, that in case one of these Wolfs do see a man first, if he have about him the tip of a Wolfs tail he shall not need to fear any harm. There be a number of such like tales concerning Wolfs and other creatures, (as that of *Pythagoras*) A Beast making water upon the urine of a Wolf, shall never conceive with young. All domestical four-footed Beasts, which see the eye of a Wolf in the hand of a man, will presently fear and run away.

If the tail of a Wolf be hung in the cratch of Oxen, they can never eat their meat. If a Horse tread upon the foot-steps of a Wolf which is under a Horse-man or Rider, he breaketh in pieces, or else standeth amazed. If a Wolf treadeth in the foot-steps of a Horse which draweth a Waggon, he cleaveth fast in the rode, as if he were frozen.

If a Mare with Foal tread upon the foot-steps of a Wolf, she casteth her Foal, and therefore the *Egyptians* when they signifie abortment, do picture a Mare treading upon a Wolfs foot. These and such other things are reported, (but I cannot tell how true) as supernatural accidents in Wolfs. The Wolf also laboureth to overcome the Leopard, and followeth him from place to place, but forasmuch as they dare not adventure upon him single, or hand to hand, they gather multitudes, and so devour them. When Wolfs set upon wilde Boars, although they be at variance among themselves, yet they give over their mutual combats, and joyn together against the Wolf their common adversary. For these occasions a Wolf hath evermore been accounted a most fierce and wilde Beast, as may further appear by this History following. When *Euristines* and *Procles* intended to marry the Daughter of some *Grecian*, that so they might joyn themselves in perpetual league and amity by afinity, they went to *Delphos* to ask counsel of *Apollo* in what place they should meet with their wives. *Apollo* gave them answer, that when they should meet with an extreme wilde Beast, as they went into *Lacedemonia*, and yet the same Beast appear meek and gentle unto them, there they should

Men destroyed
by Wolves.

Celius.
Tzetzes.

The taking of
Wolves, and the
reward of the
hunters.

should take their wives. When they came into the land of the *Cleonians*, they met with a Wolf carrying a Lamb in his mouth, whereupon they conceived that the meaning of *Apollo* was, that when they met with a Wolf in that Countrey, they might very happily and successively take them wives, and so they did, for they married with the daughters of *Thefander Cleonymus*, a very honest man of that Countrey. It is reported of *Milo Crotoniata*, that valiant strong man, how upon a season rending a tree in sunder in the woods, one of his arms was taken in the closing of the tree, and he had not strength enough to loose it again, but remained there inclosed in most horrible torments, until a Wolf came and devoured him.

The like story unto this, is that which *Ælianus* reporteth of *Gelon* the *Syracusan*, a Scholar, unto whom there came a Wolf as he sat in the School writing on his Tables, and took the writing tables out of his hand. The Schoolmaster being enraged herewith, and knowing himself to be a valiant man, took hold of the same tables in the Wolfs mouth, and the Wolf drew the Master and Scholars in hope of recovery of the tables out of the School into a plain field, where suddenly he destroyed the Schoolmaster and a hundred Scholars, sparing none but *Gelon*, whose tables were a bait for that prey, for he was not only not slain, but preserved by the Wolf, to the singular admiration of all the world; whereby it was collected, that that accident did not happen naturally, but by the overruling hand of God: Now for these occasions, as also because that the wooll and skin of beasts killed by Wolves are good for nothing, (although the flesh of Sheep is more sweeter) are unprofitable and good for nothing.

Men have been forced to invent and finde out many devises for the destroying of Wolves, for necessity hath taught men much learning, and it had been a shameful misery to indure the tyranny of such spoiling beasts, without labouring for resistance and revenge: for this cause they propounded also a reward to such as killed VVolves, for by the law of *Draco*, he that killed a young VVolf received a talent, and that killed an old VVolf received two talents.

Solon prescribed that he that brought a VVolf alive, should receive five pieces of money, and he that brought one dead, should receive two. *Apollo* himself was called *Lycogonos*, a VVolf-killer, because he taught the people how to put away VVolves. *Horner* calleth *Apollo* *Lycegenes*, for that it is said immediately after he was born of his mother *Latona*, he was changed into the shape of a VVolf, and so nourished; and for this cause there was the Image of a VVolf set up at *Delphos* before him.

Others say, that the reason of that Image was, because that when the Temple of *Delphos* was robbed, and the treasure thereof hid in the ground, while diligent inquisition was made after the thieves, there came a VVolf and brought them to the place where the golden vessels were covered in the earth, which she pulled out with her feet. And some say that a VVolf did kill the sacrileger, as he lay asleep on the Mountain *Parnassus*, having all the treasure about him, and that every day she came down to the gates of *Delphos* howling, until some of the Citizens followed her into the Mountain, where she shewed them the thief and the treasure both together: But I list not to follow or stand upon these fables. The true cause why *Apollo* was called a VVolf-killer was, for that he was feigned to be a Shepherd or Herdsman, and therefore in love of his Cattle to whom VVolves were enemies, he did not only kill them while he was alive, but also they were offered unto him in sacrifice, for VVolves were sacred to *Apollo*, *Jupiter*, and *Mars*: and therefore we read of *Apollo Lycius*, or *Lyceus*, to whom there were many Temples builded, and of *Jupiter Lyceus*, the sacrifices instituted unto him called *Lycea*, and games by the same name. There were other holy-days call'd *Lupercalia*, wherein barren women did chastise themselves naked, because they bare no children, hoping thereby to gain the fruitfulness of the womb, whereof *Ovid* speaketh thus:

*Excipe secunda patienter verbera dextra:
Jam socer optatum nomen habebit avi.!*

Propertius and some other writers seem to be of the minde that those were first instituted by *Fabius Lupercus*, as appeareth by these verses:

*Verbera pellitus seto samovebat arator,
Unde licens Fabius sacra Lupercus habet.*
And *Junenal* thus:
Nec prodest agili palmas præbere Luperco.

Divers policies
and inventions
to take
Wolves.

Now concerning the manner of taking of VVolves the Ancients have invented many devises and gins, and first of all an Iron toil which they still fasten in the earth with Iron pins, upon which pins they feave a ring, being in compass about the bigness of a VVolf's head, in the midst whereof they lay a piece of flesh, and cover the Toil, so that nothing is seen but the flesh, when the Wolf cometh and taketh hold of the flesh, feeling it stick, pulling hard, he pulleth up the ring, which bringeth the whole Toil on his neck, and sharp pins. This is the first manner that *Crescentienfis* repeateth of taking VVolves, and he saith there are other devises to ensnare their feet, which the Reader cannot understand, except he saw them with his eyes.

The *Italians* call the nets wherein VVolves are taken, *Tagliola*, *Harpago*, *Lo Rampino*, and *Lycino*, the *French*, *Hauspied*; and *Blondus* affirmeth, that the shepherds of *Italy* make a certain gin with a net, wherein

wherein that part of the VVolf is taken which is first put into it. Now the manner of taking VVolfs in ditches and pits is divers, first of all they dig a deep ditch, so as the VVolf being taken, may not get out of it, upon this pit they lay a hurdle, and within upon the pillar they set a live Goose or Lamb, when the VVolf windeth his prey or booty, he cometh upon the trench, and seeing it at a little hole which is left open on purpose to cast the VVolf into the deep ditch; and some use to lay upon it a weak hurdle, such as will not bear up either a man or a beast, that so when the VVolf cometh upon it, it may break, and he fall down; but the best devise in my opinion that ever was invented in this kinde, is that the perch and hurdle may be so made, and the bait so set, that when one VVolf is fallen down it may rise again of it owne accord, and stand as it did before to entrap another; and great care must be had, that these kinde of ditches may be made in solid and strong earth, or if the place afford not that opportunity, then must the inside be lined with boards, to the intent that the beast by scraping and digging with his feet make no evasion.

The *Rhetians* use to raise up to a Tree a certain engine like a Mouse-trap, but much greater, through which there is a cord where they hang a bait of flesh or pullen, or some such thing which the VVolf loveth; when he cometh unto it, he suddenly snatcheth at it, and so pulleth the trap upon his own pate. The *Tencrians*, *Mysians*, and *Thraceans*, Inhabitants of *Asia*, were wont to carry short weapons to kill VVolfs, and they used also the strongest Dogs, who by the encouragement of the Hunters would tear the VVolfs in pieces, for there is hardly any Dog so couragious, as to adventure upon a VVolf at single hand.

The Dogs have therefore certain collers made unto them of leather stufte full of sharp Iron nails, to the intent that their necks may be safe guarded from the VVolfs biting. Now *Blonius* saith, that all hunting of VVolfs with Dogs is in vain, except there be also set up certain great nets made of strong cords, stretched out and standing as stiffe as may be immoveably fastned to the bodies of trees, or strong pillars in the earth, and in divers places of these nets they must set boughs to cover them, to the end the VVolf descry them not; and at either end of the net must be made a little shed with boughs to cover a man, wherein the hunter must lodge with his Spear, ready to pierce through the VVolf when he perceiveth him in the net, for if the VVolf be not instantly wounded, he will deliver himself and escape, and then also he must be followed with the cry of Men and Dogs, that he may not return back again into his den, and the Hunters observe this order in hunting of a VVolf, and driving him to their nets.

VVhen they are far from their nets, they hunt them but gently, and let them go at leisure, but when they are clofer and nearer unto them, they follow them with all speed and violence, for by that means many are intrapped and suddenly killed; and these are those hunting observations which I finde to be recorded in Authors for the taking of VVolfs. And this is the nature of this beast, that he feareth no kinde of weapon except a stone, for if a stone be cast at him, he presently falleth down to avoid the stroke, for it is said that in that place of his body where he is wounded by a stone, there are bred certain worms which do kill and destroy him; and therefore the *Egyptians* when they do decipher a man that feareth an eminent danger, they picture a VVolf and a stone; as *Orus* writeth.

VVolfs do likewise fear fire even as Lions do, and therefore they which travel in woods and secret places by night, wherein there is any suspicion of meeting of VVolfs, they carry with them a couple of flints, wherewithal they strike fire, in the approach of the ravening beast, which so dazleth his eyes, and danteth his courage, that he runneth away fearfully. It is said that VVolfs are afraid of the noise of swords or iron struck together, and it may well be, for there is a true story of a man travelling near *Basil*, with a bell in his hand, who when he saw that the throwing stones at the VVolf which followed him would nothing avail, and by chance fell down, in the mean time a bell which he carryed about him did give a sound, at which sound the VVolf being affrighted ran away, which when he perceived, he sounded the bell aloud, and so drove away the wilde ravening beast. As the Lion is afraid of a white Cock and a Mouse, so is the VVolf of a Sea-crab or shrimp. It is said that the pipe of *Pithecaris* did repress the violence of VVolfs when they set upon him, for he sounded the same unperfectly, and indistinctly, at the noise whereof the raging VVolf ran away; and it hath been believed, that the voyce of a singing man or woman worketh the same effect. *Horace* testifieth so much of himself, that by singing he drove away a VVolf, as in these verses;

*Namq; me sylva Lupus in Sabina,
Dum meam canto Lalagen, & ultra
Terminum curis vagor expeditus,
Fugit inermem.*

*Quale portentum neq; militaris
Daunia in latis alit esuletis,
Nec Juba te'lus generat Leonum
Arida nutrit,*

If at any time a VVolf follow a man afar off, as it were treacherously to set upon him suddenly and destroy him, let him but set up a stick or staffe, or some such other knowledgable mark, in the middle space betwixt him and the VVolf, and it will scare him away; for the suspicious beast feareth such a man, and thinketh that he carryeth about him some engin or trap to take away his life: and therefore also it is said, that if a traveller do draw after him a long rod or pole, or a bundle of sticks and clouts, a VVolf will never set upon him, worthily mistrusting some deserved policy to overthrow and catch him. *Æsculapius* writeth, that if a man do anoint himself with the fat or

sewet

fewer taken out of the reins of a Lion, it will drive away from him all kinde of Wolves. There be some that take VVolves by poysoning, for they poyson certain pieces of meat, and cast them abroad, whereof when the Wolves do eat, they die immediately. There were certain Countrey men which brought the skins of Wolves into the City of Rome, and carryed them up and down the streets publicly to be seen, affirming that they had killed those Wolves with the powder of a certain herb call'd *Cardus Marianus*, and that therewithall also they would kill Rats and Mice. *Pausanias* saith; that there was a Temple of *Apollo Lyceus*, at *Sicyon*, and that on a time the Inhabitants were so annoyed with Wolves, that they could receive no commodity by their flocks, whereupon *Apollo* taking pity of them, told them that there was in their Temple a certain piece of dry wood, commanding them to pull off the rinde or bark of that wood, and beating it to powder, to mingle it with convenient meat for VVolves, and so cast it abroad in the fields.

The people did as they were commanded by the Oracle, and thereby destroyed all the VVolves; but what kinde of wood this was, neither *Pausanias* nor any of the Priests of *Sicyon* could declare. In one part of the world the Ewe-tree, and certain fragments of Juniper. The Spindle tree, and *Rododaphne* do yeeld poyson unto VVolves mixed in their drink, and besides them we know no trees that are venomous, and yet plants innumerable, especially VVolf-bane. And the occasion why there are more poysonful herbs then trees, is in the juyce or liquor whereby they are nourished, for where the juyce is wholesome and well tempered, there it increaseth into a great tree, but where it is imperfect and venomous, there it never groweth tall, nor bringeth forth any great stock.

There are certain little Fishes called by the *Grecians*, *Lycoi*, and by the *Latinists*, *Blenni*, which we may English VVolf-fishes, and these the Hunters use to take Wolves in this manner: when they have taken a great many of them alive, they put them into some tub or great mortar, and there kill them by bruising them to pieces, afterwards they make a fire of coals in the Mountains where the VVolves haunt, putting into the same some of these fishes mixed with bloud and pieces of Mutton, and so leaving it, to have the savour thereof carryed every way with the winde, they go and hide themselves: whilst that in the mean time the VVolves enraged with the savour of this fire, seek to and fro to finde it, because of the smell, the fire before they come is quenched or goeth out naturally, and the VVolves by the smoak thereof, especially by tasting of the flesh, bloud and fish which there they finde, do fall into a drowsie dead sleep, which when the Hunters do perceive, they come upon them and cut their throats. The *Armenians* do poyson them with black fishes, and some do take a cat, pulling off her skin, taking out the bowels, they put into her belly the powder of Frogs, this Cat is boyled a little upon coals, and by a man drawn up and down in the Mountains where VVolves do haunt; now if the VVolves do chance to meet with the train of this Cat, they instantly follow after him, enraged without all fear of man to attain it, therefore he which draweth the Cat, is accompanied with another Hunter armed with a Gun, Pistol, or Cross-bow, that at the appearance of the VVolf, and before his approach to the train, he may destroy and kill him.

Poysoning of
Wolves.

I will not discourse of VVolf bane, commonly called *Aconitum* in *Latine*, wherewithall both men and beasts are intoxicated, and especially VVolves, but referring the Reader to the long discourse of *Conradus Gesner*, in his History of the VVolf, I will only remember in this place an Epigram of *Ausonius* wherein he pleasantly relateth a story of an adulterated woman, desiring to make away her jealous husband, and that with speed and vehemency, gave him a drink of VVolf-bane and Quick-silver mingled together, either of both single are poyson, but compounded are a purgation, the Epigram is this that followeth:

*Toxica ze'otypo dedit uxor mæcha marito,
Nec satis ad mortem credidit esse datum,
Miscuit argenti letalia pondera vivi,
Cogeret ut celerem via geminata nocem.
Dividat hæc si quis, faciunt discreta venenum;*

*Antidotum sumet, qui sociata bibet.
Ergo inter sese dum noxia pocula certant,
Cessit letalis noxa salutare,
Protinus & vacuos alvi petiere recessus,
Lubrica dejectis qua vita nota cibis.*

The enemies
of Wolves.

Concerning the enemies of Wolves, there is no doubt, but that such a ravening beast hath few friends, for except in the time of copulation wherein they mingle sometime with Dogs, and sometime with Leopards, and sometime with other beasts, all beasts both great and small do avoid their society and fellowship, for it cannot be safe for strangers to live with them in any league or amity, seeing in their extremity they devour one another: for this cause, in some of the inferiour beasts their hatred lasteth after death, as many Authors have observed; for if a Sheep skin be hanged up with a Wolves skin, the wool falleth off from it; and if an instrument be stringed with strings made of both these beasts, the one will give no sound in the presence of the other; but of this matter we have spoken in the story of the sheep, shewing the opinion of the best learned, concerning the truth hereof. The Ravens are in perpetual enmity with Wolves, and the antipathy of their natures is so violent, that it is reported by *Philes* and *Ælianus*, that if a Raven eat of the carcase of a beast which the Wolf hath killed, or formerly tasted of, she presently dyeth.

There are certain wilde Onions called *Scille*, and some say the Sea-Onion, because the root hath the similitude of an Onion, of all other things this is hateful to a Wolf, and therefore the *Arabians* say, that by treading on it his leg falleth into a cramp, whereby his whole body many times endureth

endureth insufferable torments, for the Cramp increaseth into Convulsions; for which cause it is worthy to be observed how unspeakable the Lord is in all his works, for whereas the VVolf is an enemy to the Fox and the Turtle, he hath given secret instinct and knowledge both to this Beast and Fowl, of the vertuous operation of this herb against the ravening VVolf; for in their absence from their nests, they leave this Onion in the mouth thereof, as a sure gard to keep their young ones from the VVolf.

There are certain Eagles in *Tartaria* which are tamed, who do of their own accord being set on by men adventure upon VVolves, and so vex them with their talons; that a man with no labour or difficulty may kill the beast, and for this cause the VVolves greatly fear them and avoid them; and thereupon came the common proverb, *Lupus fugit aquilam*: And thus much shall suffice to have spoken in general concerning their taking.

Now we will proceed to the other parts of their History, and first of all of their carnal copulation. They engender in the same manner as Dogs and Sea-calves do, and therefore in the middle of their copulation they cleave together against their will. It is observed that they begin to engender immediately after *Christmas*, and this rage of their lust lasteth but twelve days, whereupon there was wont to go a fabulous tale or reason, that the cause why all of them conceived in the twelve days after *Christmas* was, for that *Latona* so many days together wandered in the shape of a she VVolf in the Mountains *Hyperborei*, for fear of *Juno*, in which likeness she was brought to *Delus*; but this fable is confuted by *Plutarch*, rehearsing the words of *Antipater* in his Book of Beasts, for he saith when the Oaks that bear Acorns do begin to cast their flowers or blossomes, then the VVolves by eating thereof do open their wombs, for where there is no plenty of Acorns, there the young ones dye in the dams belly, and therefore such Countries where there is no store of Oaks, are freed from VVolves; and this he saith is the true cause why they conceive but once a year, and that only in the twelve days of *Christmas*, for those Oaks flower but once a year, namely, in the Spring time, at which season the VVolves bring forth their young ones. For the time that they go with young, and the number of whelps, they agree with Dogs, that is, they bear their young nine weeks, and bring forth many blinde whelps at a time, according to the manner of those that have many claws on their feet. Their legs are without Articles, and therefore they are not able to go at the time of their littering, and there is a vulgar opinion, that a she VVolf doth never in all her life bring forth above nine at a time, whereof the last which she bringeth forth in her old age is a Dog, through weakness and infirmity: but the *Rhetians* among whom VVolves do abound, do affirm constantly, that in the beginning of *May*, they bring their young out of their dens, and lead them to the water, sometimes seven, and sometimes nine, every year encreasing their number; so that the first year she littereth one whelp, the second year two, the third year three, and so observeth the same proportion unto nine, after which time she groweth barren and never beareth more: and it is said when she bringeth her young ones to the water, she observeth their drinking very diligently, for if any of them lap water like a Dog, him she rejecteth as unworthy of her parentage, but those which suck their water like a Swine, or bite at it like a Bear, them she taketh to her, and nourisheth very carefully.

VVe have said already that VVolves do engender not only among themselves, but among other beasts, and such are to be understood of them which bear their young an equal proportion of time, as of Dogs and VVolves cometh the *Lupus Canarius*, or Panther, and the *Crocuta*. Of the Hyæna and the Wolf come the Thoes, of whom we shall speak in their due place in the end of this story, and the Hyæna it self seemeth to be compounded of a Wolf and a Fox.

Concerning the natural disposition of this Beast we have already spoken in part, and now we will adde that which doth remain; and first of all their Epithets which are attributed unto them among severall Authors are most clear demonstrations of their disposition; as sowe, wilde, *Apulian*, sharp, fierce, bold, greedy, whoar, flesh-eater, wary, swift, bloody, blood-lovers, degenerate, hard, glutton, hungry, Cattle-eater, famishing, furious, yellow, falling, ungentle, dishonest, untameful, harmful, Cattle-hurter, teeth-gnasher, insatiable, treacherer, martial, sorrowful, mountain, nightly, robber, strate, ravener, mad, snatcher, cruel, pack-bearer, blood-sucker, foamer, proud, searing, fullen, terrible, vehement, howling, and such other like belonging to the male Wolf. Now unto the female there are some peculiar ones also, as inhumane, ungentle, martial, obscure, rank, ravener, fanded, *Romulian*, greasie, terrible, and *Volsan*: and the ravening desire of this Wolf doth not only appear in the Proverbs of holy Scripture already repated, as where Christ compareth the Hereticks to Wolves, but also from hand instruments and sicknesses, for a little hand-saw is called of the *Latines* and *Germans* *Lupus*, a Wolf; because of the inequality of the teeth, wherewithal a man sheareth asunder violently any piece of wood, bones, or such like thing.

There is a disease called a Wolf, because it consumeth and eateth up the flesh in the body next the sore, and must every day be fed with fresh meat, as Lambs, Pigeons, and such other things wherein is blood, or else it consumeth all the flesh of the body, leaving not so much as the skin to cover the bones. Also the galls on a mans seat which cometh by Horse-riding, are by the Ancients called *Lupi*, and by *Martial*, *Ficus*, whereof he made this distichon;

*Stragula succincli venator sume veredi,
Nam solet à nudo surgere ficus equo.*

There be also instruments called *Lupi*, and *Harpages*, or *Harpagones*, wherewithall Ankers are loosed in the Sea, or any thing taken out of the deep. There is a certain territory in *Ireland*, (whereof Mr. *Camden* writeth) that the Inhabitants which live till they be past fifty year old, are foolishly reported to be turned into Wolves: the true cause whereof he conjectureth to be because for the most part they are vexed with the disease called *Lycanthropia*, which is a kinde of melancholy causing the persons so affected, about the moneth of *February* to forsake their own dwelling or houses, and to run out into the Woods, or near the graves and sepulchres of men, howling and barking like Dogs and Wolves. The true signes of this disease are thus described by *Marcellus*: those saith he which are thus affected, have their faces pale, their eyes dry and hollow, looking drounfully, and cannot weep. Their tongue as if it were all scabd, being very rough, neither can they spit, and they are very thirsty, having many ulcers breaking out of their bodies, especially on their legs; this disease some call *Lycæon*, and men oppressed therewith *Lycæones*, because that there was one *Lycæon* as it is faigned by the Poets, who for his wickedness or sacrificing of a childe, was by *Jupiter* turned into a Wolf, being utterly distracted of humane understanding, and that which Poets speak of him, may very well agree with melancholy, for thus writeth *Ovid*:

*Territus ipse fugit, noctusq; silentia ruris
Exululat, frustra; loqui conatur.*

And this is most strange, that men thus diseased should desire the graves of the dead. Like unto this is another disease, called by *Bellunensis*, *Dæmonium Leoninum*, which is saith he, *Confusio rationis cum factis malis, noxiis & iracundiis*; à *Leone dictum videtur malum, quod eo detemi alios homines ledant, & Leonum instar in eos sevant*; that is, the Lion-devil disease is a confusion of reason, joyned with wrathful, and impious facts; and it seemeth to be named of Lions, because that such as are oppressed therewith, do rage against men, and wound them like Lions.

The apology
of Wolves and
Lambs.

There is a pretty Apology of a league that was made betwixt the Wolves and the Sheep, whereupon came the word *Lycophilos*, my Author rehearseth it thus: *Lupis & agnis fœdus aliquando fuit, datis utrinq; obsidibus, Lupi suos catulos, oves Canum cohortem dedere. Quietis ovibus ac pascen- tibus Lupuli matrum desiderio ululatus edunt, tum Lupi irruentes fidem fœdusq; solutum clamitant, ovesq; Canum præsidio destitutas laniant*, that is to say, There was a peace made betwixt the Wolves and the Sheep, either side giving hostages to other, the Wolves gave their young whelps, and the Sheep gave the Shepherds Dogs to the VVolves. Now when the young VVolves were among the flock of Sheep, they howled for their dams, which when the old VVolves heard, they came rushing in upon the Sheep, crying out that they had broken the league, and therefore they destroyed the Sheep in the absence of the Dogs that should keep them: whereby is notably signified the simplicity of innocent men, and the impiety of the wicked, for whatsoever bonds of truce and peace are made with them, they ever respect their own advantage, taking any small occasion, like VVolves at the crying of their young ones, without all offence of the innocent and harmless, to break through the brazen walls of truce, peace, and amity, for the execution of their bloody and ungodly mindes.

The particu-
lar disposition
of Wolves.

VVolves are truly said to be fierce and treacherous, and not generous and bold, and noble like Lions. They especially rage in the time of their hunger, and then they kill not so much as will suffice, but all the flock before them; but being satisfied, as we have said already, they seem rather Lambs then VVolves. The male is always as careful of the young ones as the female, for while she suckleth her young ones, he bringeth meat unto her in the den, and when that they are greatly constrained both to fly away, they carry their young ones along with them. Great is their malice toward them that hurt them, as *Nepos* saith, he tryed one day when he was a hunting near *Rome*, for his Dog was fighting with a VVolf, and he coming in with the multitude of Hunters, alighted from his Horse, and drew his sword, and gave the VVolf a wound, the VVolf feeling the stroke of the sword forsook the Dog and turned upon the man, making all force at him he could to bite him, but he professed he escaped with singular danger, more by the help of his fellow hunters, then by his own valour; wherefore he concludeth, that as VVolves are enemies to all, so they take special revenge of them that harm them, as we have said before of Lions. Some say that when many of them have obtained a spoil, they do equally divide it among them all, I am sure the like is reported betwixt the old Lion and the young, but whether it be true in VVolves I cannot tell, but rather think the contrary, because they are insatiable and never think they have enough. And *Albertus* saith, they do not communicate their prey like Lions, but when they have fed sufficiently, they hide the residue in the ground till they hunger again.

VVhen they set upon horned beasts, they invade them behinde, and on their backs; when they set upon Sheep, they choose a dark cloudy day or time, that so they may escape more freely; and to the intent that their treadings should not be heard, they lick the bottom or soles of their feet, for by that means they make no noise among the dry leaves; and if going along they chance to break a stick, and so against their minde make a noise, then presently they bite their foot, as if it were guilty of that offence: For the most part they set upon such Cattle as have no Keepers, and raven in secret. If they come unto a flock of Sheep where there are Dogs, they first of all consider whether they be able to make their party good, for if they see they cannot match the Dogs, they depart away although they have begun the spoil, but if they perceive their forces to be

be equal or superior, then they divide themselves into three ranks, one company of them killeth Sheep, a second company fighteth with the Dogs, and the third setteth upon the men. When they are in danger to be taken by the hunters, they bite off the tip of their tails, and therefore the Egyptians, when they would describe a man delivered out of extremity and danger, do picture a Wolf lacking that part of his tail. To conclude, when they are in peril they are extremely fearful, astonished, and afraid, especially when they are unavoidably included they seem harmless, and this argueth the baseness of their minde which is subtil, cowardly, and treacherous, daring do nothing but for the belly, and not then neither, but upon a singular advantage, and for the manifesting hereof, I will expresse these two stories following, as they were related to *Gesner* by *Michael Herus*, and *Iustinus Goblerus*. It happened (saith the first), that a certain Wolf constrained by famine, came unto a village near *Milan* in *Italy*, and there entred into a certain house, wherein sat the good wife and her children, the poor woman being terrified herewith, and not knowing what she did, ran out of the house, pulling the dore to after her, and so shutting the Wolf in among her children; at last her husband returned home, unto whom she related the accident, and how she had shut up the Wolf; the man being more afraid then was cause, lest the Wolf had devoured some of his children, entered hastily in a dores, longing to save and deliver his poor Infants, whom the fearful mother had left with the Wolf, when he came in he found all well, for the Wolf was in worse case, astonished, amazed, daunted, and standing like a stock without sense, not able to run away, but as it were offering himself to be destroyed: And this is the first history.

The second is like unto this, but more admirable, for the great Uncle of *Goblerus*, being marvelously addicted to the hunting of wilde beasts, had in his land divers ditches and trenches cast up with other pits and caves wrought very artificially for the safe keeping of such beasts as should fall into them. Now it hapned that upon one Sabbath day at night there fell into one of those pits three creatures of divers disposition, and adverse inclination, none of them being able to get out thereof: the first was a neighbors wife of his a poor woman, which going to the field to gather Beets and Rapes for her meat the day following, it fortuneth that she fell down by a mischance into the said pit, wherein she was faine to lodge all night (you must think with great anguish, sorrow, and perillous danger to her self) beside that which her husband and family conceived at home, but she had not tarried long in the said pit ere a Fox was likewise taken and fell down upon her, now began her grief to be encreased, fearing lest the wilde best should bite and wound her, having no means to escape from him, nor no man to help and rescue her, although she cryed as loud as ever she could; wherewithal being wearyed, necessity made her to be patient, being a little comforted to see the Fox as much afraid of her, as she was of him, and yet she thought the night full long, wishing for the break of the day, when men stir abroad to their labours, hoping that some or other would hear her moan, and deliver her from the society of such a Chamber-fellow: while thus she thought, striving betwixt hope, fear, and grief, lo what befel her more wofully then before, for suddenly a Wolf was taken and fell down upon her, then she lost her hope, and in lamentable manner thinking of husband and children, how little they conceived of her extremity, resolved to forsake the world, and commended her soul to God, making no other reckoning but that her distressed lean limbs should now be a supper and breakfast to the Wolf, wishing that she might but see her husband, and kiss her children before she lost her life by that savage execution; but all her wishes could not prevail, nor clear her heart from fear and expectation of an unavoidable death: while thus she mused, she saw the Wolf lie down, she sitting in the one corner, and the Fox resting in another, and the Wolf appaled as much as either of both, so the woman had no harm but an ill nights lodging, with the fear whereof she was almost out of her wits. Early in the morning came his great Uncle the Hunter to look upon his trenches and pits what was taken, and coming unto that pit, he found a treble prey; a Woman, a Wolf, and a Fox; whereat he was greatly amazed, and stepped a little backward, at the first sight the woman seeing him cryed out, calling him by his name, and praying his aid: he knowing her by her voyce, presently leaped down into the pit, (for he was a valiant man) and with his weapon first slew the Wolf, and then the Fox, and so delivered the woman from the fear of them, yet there was forced to leave her till he went and fetched a ladder, for she was not able to come forth as he was; then having brought the ladder, he went down again into the pit, and brought her forth upon his shoulders, in that manner delivering her safe to her husband and family. Now these two stories do plainly set forth, that a Wolf dareth do nothing when he is in fear himself.

It hath been a question whether Wolves can be tamed or no, some say that they are always wilde and can never be tamed. *Albertus* writeth, that being taken whelps, they are tamed and will play like Dogs, yet he saith, they never forget their hatred against the Hunter and the desire of Lambs or other beasts which are devoured by Wolves, whensoever he goeth abroad. And *Stumpsius* writeth, that even when they are tamed, they are angry with their Masters that look upon them while they eat their meat.

Of tamed Wolves.

Strabo writeth a fable of two Woods among the ancient *Veneti*, one of them dedicated to *Juno*, and the other to *Diana*, and he would make the world believe, that therein the Wolves lived peaceably and gently with the Harts, and did come to the hands of men like familiar and tame Dogs, suffering themselves to be stroked with their hands. *Aelianus* and *Stephanus* do say, that near the plain of *Meotis*, there are Wolves which live like tame Dogs with men, being continually conversant among the Fishermen, and these Wolves do part stakes and divide their prey with the

the inhabitants dwelling upon the Sea-shores, and there is such a mutuall charity and commons observed betwixt them and the men, for sometimes the Wolves take fishes when the men take none, and then they part with the Wolf, sometimes the men take fishes when the Wolves have none; and thus they live together in quiet manner like confederates, each one relieving and helping other; but if the men at any time break with the Wolves, and do not give them a share, they recompense their ingratitude and falshood with tearing in pieces their nets: which thing if it be true, is a singular example of that rare concord and agreement which was primitively ordained by God to be betwixt man and beast: Some say, these kinde of Wolves be Otters, but I rather beleieve that they be Sea-wolves, of whom we shall talk presently.

Albertus.

The Wolf
hath no friend
but the Parrot.

There be many magicall inventions about the parts of Wolves, namely, their heads, teeth, ears, tails, and privy parts, which I will not stand to recite in this place, because I cannot tell what benefit shall come to the knowledge of them by the *English* Reader. Wolves are subject to the same diseases that Dogs are, especially the swellings of the throat, madnesse, and the gout: when they are sick, they eat of an herb which makes them cast, some say, it is ground Ivy, some say it is grasse, and some otherwise, of this they eat when they have a pain in their bellies, and not otherwise. The reason why Dogs and Wolves are more subject to madnesse than any other beast, is because their bodies are cholerick, and their brains increase and decrease with the Moon. If a man be bitten by a mad Wolf, he is to be cured by the same medicines that are applyed to the bitings of a mad Dog. They live very long, even untill they lose their teeth, therefore in their old age oppressed with famine they flie unto Cities and houses to seek meat. They have no friends but the Parrots. A Wolf was once the part of the Arms of *Rome*; and the Judgement-seat at *Athens* had in it the Picture of a Wolf. There were ancient Coins of money stamped with the image of a Wolf, both among the *Grecians* and among the *Romans*, which were therefore devised, because *Romulus* and *Remus* were said to be nursed by a Wolf: with the skins of Wolves after they were dressed by Curriers, we do read that there were garments made, wherewithall great Princes and Noble men were cloathed, the bare being inward next to their bodies, and the rough being outward, these were used in journeys and huntings, and they were the proper garment of the guards of Tyrants. And this shall suffice of the vulgar Wolf.

Of the SEA-WOLF.



Although nothing hath hitherto been brought to light concerning the Sea-wolf of the ancient writers, that I know, yet his form is notable to be observed; and you may chuse whether you will call him a Thief or a Sea-monster, much differing from the Wolf-fish, as that he seemeth to challenge a particular description or treatise. It is also a Four-footed beast that liveth both on sea and land, satisfying his hunger on the most part upon fishes: It hath been seen upon the *Britain* Ocean shoar, and it doth resemble the Wolf that liveth on the land, that it is not undeservedly called among the common people a Wolf.

Bellonius.

It doth live also a long time being tamed, it hath a dangerous head, and very many hairs growing on both sides of his eyes to shadow them, his nostrils and teeth are like unto a Dogs, and strong hairs growing about his mouth: also small bristles growing upright upon his back: and adorned and marked on every side with black distinct spots, a long tail, thick and hairy, all the other parts being like to a Wolves, as you may easily see by this expressed Picture: and unto this belongeth the story of the Wolves last before expressed, which live upon fishes, and divide them familiarly with men.

Of the THOES.

There are two kinds of Thoes, as there are of Panthers, differing only in magnitude or greatness. But the lesser Thoes is like unto the lesser Panther, a Lycopanther, and the *Lupus canarius* engendered betwixt a VVolf and a Dog, are all one four-footed beast. The Thoes also are a kinde of VVolf. And again there is a kinde of VVolf which *Aristotle* doth call *Chabex*, but *Avicen* doth write, that it ought to be called *Beruet*, in the *Persian* tongue. And again in another place, where he doth write, that the Lion and the Thoes are utter enemies, and *Albertus* doth translate it, that a VVolf doth fight with the four-footed beast *Toboz*, which is a corrupted word, *Toboz* for *Thoes*, as *Cabez* for *Thoboz*, and this some men think to be the Lynx. Thoes is called in *Hebrew*, *Tabas*; *Alshali* is a four-footed beast like to a Wolf. *Adeditach* is also a kinde of Wolf, but I do not know whether these names belong only to the Thoes, or to any other kinde of Wolf. *Solinus* doth call *Thoes* *Æthiopian* Wolves, and a little before he said that *Lycan* was an *Æthiopian* Wolf, maimed on the neck, and so divers coloured that a man would think there were no colors wanting in them. *And. Bellu.*

The people of *Scythia* likewise say, that the Buff doth change his colors, neither is there any other beast covered with hair, except the *Lycan* among the *Indians*, (as *Pliny* also writeth) and besides this there is no mention made of the *Lycan* among all the ancient writers. *Lycans* are called Dogs, in the story of the diversities of Dogs. The lesser kinde of Thoes are the best, for some make two kinde of Thoes, and some three, and these like birds, and other four-footed beasts, change their color, both in Winter and Summer, so that sometime they appear bare, and again at other times rough all over, that is bare in the Summer, and rough in the Winter, but it doth plainly seem that there is no more kinde of Thoes but one, which the things that come after doth prove and make manifest. *Nearchus* saith, that those Tigers are not true Tigers, which are commonly called Tigers, but changeable Thoes (as if that every Thoes were not changeable) and greater then the other Thoes.

They have no reason which take the *Lupus cervarius* for a Thoes, which we have already shewed to be a Lynx, for the *Rhatians* which speak *Italian*, & the *Savoyans* do to this day call him *Cervario*, and for the *Armenian* Wolf the *Cicatus*, and the *Lupus Canarius* we have already shewed, that it is a Panther, and therefore it is needless to stand any longer upon those names in this place. We will therefore take it for confessed, that the Thoes is a beast engendered betwixt a Wolf and a Fox, whereof some are greater and some are smaller, and these are found about the Mountain *Pangens*, *Cittus*, *Olympus*, *Mysius*, *Pindus*, and *Nisa*, beyond *Syria*, resembling for the most part a Hyæna, having a longer body, and a straighter tail then a Wolf, and although it be not so high of stature, yet it is as nimble and as strong as is the Wolf, and it seemeth that the very name Thoes is taken from the celerity and swiftness in running and leaping, for it getteth his living by the quickness of his feet. In the outward face it much resembleth a Wolf his Father, but in spots and length of his body it resembleth a Panther his Mother; they couple in generation like Dogs, bringing forth two or four at a time, like Wolves, which are blinde, and their feet cloven into many toes. *Arrian.*

They are enemies to Lions, and therefore they do not live in the same place where Lions are, not only because they live upon the same victuals and food, but also because they are a more pitiful creature then they, especially to man, for if they see the face of a man at any time, they run unto him and do him all such reverence as their brutish nature can demonstrate.

And further *Philes* and *Selinus* write, that if they see a man oppressed by any other beast, they run and fight for him, although it be with the Lion, not sparing to offer their own lives, and to spend their dearest blood in the defence of him, who by secret instinct of nature they understand to be ordained of God, the King and chiefest of all worldly creatures: therefore *Gravius* called this kinde, *femiferam*, *Thoen de sanguine prolem*, and of their taming and fighting with Lions, he speaketh:

Thoes commissos Leones
Et subiere astu, & parvis domuere lacertis.

They live for the most part upon Harts, whom they take in the swiftness of their course, these they bite and suck their blood, then suffering them to run away to some Mountains, thither they follow them and take them the second time, not destroying them all at once, but by distance of time, whereby the Harts blood groweth sweeter unto them, and they have the better appetite thereunto to destroy them. The Lycopanthers, and also the beast Pathyon, whereof *Albertus* speaketh, I do take to be two several distinct beasts from the Thoes, although the quantity and stature agree, and I see no cause if there be any such beast in the world, but that we may truly say they are a lesser kinde of Panthers: And this shall suffice to have said of these beasts, which are deemed to be of the kinde of Wolves, wherein we have endeavored to say so much of the general and special as we could collect out of any good Authors; and thus we will shut up the story of the Wolf with a short remembrance of his medicinal virtues.

The Medicines of a Wolf.

A Wolf being foddren alive until the bones do only remain, is very much commended for the pains of the Gout, or a live Wolf steeped in Oyl and covered with Wax, is also good for the same disease.

The skin of a Wolf being tasted of those which are bit of a mad or ravenous Dog, doth preserve them from the fear or hazard of falling into water. The skin of a Wolf is very profitable for those which are troubled with the winde colick, if it be bound fast about the belly: and also if the person so affected doth sit upon the said skin, it will much avail him. If any labouring or travelling man doth wear the skin of a Wolf about his feet, his shooes shall never pain or trouble him. The skin of a Wolf being new plucked off from him, and especially when it hath the natural heat in it, and rowled about the member where the cramp is, is very effectual against it.

The blood of a Wolf being mixed with Oyl, is very profitable against the deafness of the ears. The dung and blood of a Wolf is much commended, for those that are troubled with the Colick and Stone.

The blood of a Buck, Fox, or Wolf being warm, and so taken in drink, is of much force against the disease of the stone. He which doth eat the skin of a Wolf well tempered and sodden, will keep him from all evill dreams, and cause him to take his rest quietly. The flesh of a Wolf being sodden, and taken in meat, doth help those that are Lunatick. The flesh of a Wolf being eaten, is good for procreation of children. You may read more things in the chapter going before, concerning remedies of the flesh of a Wolf taken in meat. The fat of a Wolf is no less efficabile, then the flesh.

The fat of a Wolf doth very much profit, being anointed upon those whose joynts are broken. Some of the later writers were wont to mingle the fat of the Wolf, with other Ointments for the disease of the Gout. Some also do mingle it with other Ointments, for the Palsie. It doth soften also the Uvula, being anointed thereon. The same also being rubbed upon the eyes, is very profitable for the bleardness or blood-shot of the eyes. The head also of a Wolf is very good for those that are weak to sleep upon, being laid under their pillow. The head of a Wolf being burned into ashes, is a special remedy for the loosness of teeth. The right eye of a Wolf being salted, and bound to the body, doth drive away all Agues and Feavers. The eye of a Wolf being rubbed upon the eye, doth diminish all diseases that rise in the sight of the eye, and it doth also take away all marks or prints being made with hot Irons. The right eye of a Wolf also is profitable for those that are troubled with itches on the right side of the belly; and the left eye of a Wolf for pains on the left side. The right eye of a Wolf is very good against the bitings of Dogs. Also the eye of a Wolf is much commended for those that are Lunatick by the bitings of Dogs.

The teeth of a Wolf being rubbed upon the gums of young Infants, doth open them, whereby the teeth may the easier come forth. Again, the gums of children are loosened with the tooth of a Dog, being gently rubbed thereon, but they are sooner brought forth with the teeth of a Wolf. Some men do commend the tongue of a Wolf to be eaten of those that are troubled with the Falling-sickness. The artery which springeth in the throat of a Wolf being taken in drink, is a most certain cure against the Squinsie. The throat of a Wolf taken in drink, is very much commended for those that are troubled with the Falling-sickness. The lungs or lights of a Wolf being sodden and dried, and mingled with Pepper, and so taken in milk is very profitable for those that are puffed up or swoln in the belly.

The heart of a Wolf being burned and beaten to powder, and so taken in drink, doth help those that are sick of the Falling-sickness. Take one ounce of the gum of an Oak, and half an ounce of the gum of a Pear-tree, and two drams of the powder made of the top of a Hart-horn, and one dram of the heart of a Wolf, all which being mingled together, and made into medicine, is always used for the cure of all ulcers: but it will be more effectual if thou dost add thereto the hinder-part of the skull of a man beaten to powder. The Liver of a Wolf is of no less vertue then the Lungs or Lights, which I have manifested in the medicines of the Fox. The Liver of a Wolf helpeth or profiteth those that are sick of the Falling-sickness. The Liver of a Wolf being washed in the best white wine, and so taken, is very good for those diseases that arise in the Liver. The Liver of a Wolf mixed in the medicine made of Liver-wort, is very much commended for the diseases in the Liver. Galen also doth say, that he hath holpen those which have been diseased in the Liver, only using the medicine made of Liverwort, and he saith, if he did apply any other medicine thereto, it did little or nothing at all profit him.

The Liver of a Wolf is very profitable for those that are troubled with the scurfe in the mouth. The Liver or laps of a Wolf is much used for those that are troubled with diseases in the Liver; but you must dry it and afterwards beat it to powder, and so give the party so affected one dram of it in sweet wine. The Liver laps of a Wolf saith *Marcellus*, being dried and beaten to powder, and a little part of it mingled in like portions with the powder made of Fenegreek, of Lupines, Wormwood, and of the herb called *Herba Maria*, and so mingled that it may be about the quantity of a cup full, and so given him that day which he is not troubled with the Fever, but if he shall be troubled with it, let him take it in water for the space of three days, and after he hath drunk it, let him lie for the space of half an hour with his arms spread abroad: and afterwards let him walk very often, but eat very seldom, and let him be sure he keep himself for the space of those three days well ordered, and from drinking any cold drink, or eating any salt or sweet thing, and within a little space after he shall be freed from that disease. The Liver laps of a Wolf being wrapped in bay-leaves, and so set to dry at the Sun or at the fire, and being dried, beat it to powder in a Mortar, first taking away the leaves very warily, which being powdered, you must keep it in a clean vessel, and when you give it him to drink, you must adde thereto two leaves of Spoonwort, with ten grains of Pepper beaten very small, and as much clarified Honey as is needful, and also made hot with a hot burning Iron, and mingled very diligently in a Mortar, which being so warmed, you must give him to drink sitting

right

Pliny.
Sextus.

Blondus.

right up in his bed, that after he hath taken the potion, he may lye down on his right side for the space of an hour, drawing his knees together, and after that he hath done so, let him walk up and down for the space of an hour, and this will likewise cure him of the same disease. *Avicen.*

Avicen doth set down a medicine concerning the cure of the hardness of the Liver, which is, Take Opium, Henbane, Oyl made of Beavers stones, Myrrhe, Saffron, Spicknard, Agrimony, the Liver of a Wolf, and the right horn of a Goat burned, of each equal parts, and make thereof a medicine. The Liver of a Wolf being made in the form of a dry Electuary and given as a Lozeng, doth also very much profit against the diseases of the Liver. *Dioscorides.*

Gugir a Philosopher doth affirm, that the Liver of a living beaſt doth very much profit against all pains of the Liver. The Liver of a Wolf being thoroughly dried and drunk in sweet Wine, doth mitigate all griefs or pains of the Liver. The Liver of the same beaſt to the quantity of a penny, taken in a pinte of sweet Wine, is very medicinable for the curing of all pains in the Liver whatsoever. The Liver of a Wolf being taken in hot wine, doth perfectly cure the cough. If an intolerable cough doth vex any man, let him take of the Liver of a Wolf, either dried or burnt, as much as he shall think convenient, and therewith let him mingle wine, honey, and warm water, and afterward drink the same fasting every day, to the quantity of four spoonfuls, and he shall in short space be cured of the same. *Galen. Pliny.*

The laps or fillets of a Wolves Liver, being applyed unto the side, doth perfectly heal any stitch or pricking ach therein. The Liver of a Wolf being taken in sweet wine, doth heal those which are troubled with a Tifick. The Liver of a Wolf being first boyled in water, afterwards dried, beaten and mingled with some certain potion, doth instantly heal the grief and inflammation of the stomach. The powder of a Wolves Liver mingled with white wine, and drunk in the morning for some certain days together, doth cure the Dropſie. The Liver of a Wolf taken either in meat or drink, doth assuage the pains of the secret parts. Two spoonfuls of the powder of a Wolves Liver being given in drink, doth cure all pains or sores of the mouth. The gall of a Wolf being bound unto the navel of any man, doth loosen the belly.

The gall of a Wolf taken in wine, doth heal all pains in the fundament. The entrails of a Wolf being washed in the best white wine, blown upon, dried in an Oven, pounded into dust, afterwards rowled in Wormwood, is a good and effectual remedy against the Colick and Stone. If some part of the yard of a Wolf being baked in an oven, be eaten by any, either man or woman, it instantly stirreth them up to lust. Concerning the genital of a Wolf I have spoken before in the medicines of the Fox: but antiquity, as *Pliny* saith, doth teach that the genital of beaſts which are bony, as Wolves, Foxes, Ferrets, and Weasels, are brought to an especial remedy for many diseases. If any man take the right stone of a Wolf, being bloody, steep it in Oyl, and give it unto any woman to apply it unto their secret parts, being wrapped in wooll it instantly causeth her to forsake all carnal copulation, yea although she be a common strumpet. The same being taken in some certain perfume, doth help those which are troubled with the foul evil. *Sylvius. Albertus. Rasis.*

The eyes being anointed with the excrements of a VVolf, are instantly freed from all covers or spreading skin therein. The powder of the same VVolf being mingled with the sweetest Hony as can possible be had, and in like manner rubbed or spread upon the eyes, doth expel all dazeling from them. The fime of a VVolf long rubbed, until it be very light, being mingled with Honey, by the union thereof, causeth the filth or scurfie growing about the eyes to avoid away, and restoreth them to an exceeding clearness. The powder of a VVolves head being rubbed upon the teeth, doth make fast and confirm the looseness thereof, & it is most certain that in the excrements of the same beaſt, there are certain bones found, which being bound unto the teeth, have the same force and efficacy. *Galen.*

The dung of a VVolf or Dog being beaten into small powder, mingled with Honey and anointed upon the throat, doth cure the Quinsie or Squinansie, as also all other sores in the throat whatsoever. The fime of a VVolf being given to those which are troubled with the Colick to drink, doth easily cure them, but this dung is more effectual if it have never touched ground, which is very hard to come by, but it is found by this means. The nature of the VVolf both in making his water, as also in voiding his excrements is like unto a Dogs, for while he voideth his water he holdeth up his hinder-leg, and voideth his excrements in some high or steepy place far from the earth, by which means it falleth down upon bushes, thorns, fruits, elder-trees, or some other herbs growing in those places, by which means it is found never touching the earth. There is furthermore found in the fime of VVolves certain bones of beaſts which they have devoured, which for as much as they could not be grinded or chewed, so also can they not be concocted, which being beaten and bruised small, are by some commended to be excellent given in drink for the ease of the Colick, but if the grieved party shall be some fine or delicate person which cannot endure so gross a medicine, then mingle it with Salt, Pepper, or some such like thing, but it is most often given in sweet wine, so there be but a small quantity thereof drunk at one time.

But this dung which the *Græcians* call *Lagonas*, and is to be applyed to the groin of the diseased person, ought to be hanged in a band made of wooll, but not of any wooll: But it would be more effectual if it were made of the wooll of that Sheep which was slain by a VVolf. But if the same cannot be got, then is it fit that there be two bands, one which may be bound about the groin, and another which may be bound upon the dung to keep it from falling.

There are also some which cast a small quantity of the same dung to the bigness of a Bean in a little pot, fastening the same to any one which is troubled with the said disease, and it healeth them (which in

in a manner seemeth incredible) in very short time. The dung of a Wolf boyled in small white wine, and afterwards taken in drink, is very profitable for those which are troubled with the colick: and it is also reported that if the same dung be covered with the skin of the same beast, and hung upon the thigh of any one which hath the colick being bound with a thread made of the wooll of a Sheep slain by a Wolf, it will instantly cure the said disease.

The fime of a Wolf, so that it be not found upon the earth, but upon some trees, Brambles, or Bulrushes, being kept, and when there shall be need bound unto the arm of him that shall be troubled with the Colick, or to his neck being included in a bone, or in Copper, and hung with the thread wherewith silk-women weave, doth wonderfully and most speedily cure him, so there be great care had, that in the mean time there be a little of the same dung given to the grieved party to drink, not knowing what it is. The dung of a Wolf being taken, and the bones therein beaten into powder, mingle therewith cold water, giving it to any one to drink which is troubled with the Stone, and it will instantly cure him.

The dung of a Wolf beaten into the smallest powder then strained and given unto any in his fit which is troubled therewith to the quantity of half a spoonfull in hot water, is a very effectually and approved cure for the Stone. The bones which are found in Wolves, being bound unto the arm of any one which is troubled with the Colick, having never touched the ground, do with great speed and celerity cure him. The pastern bone of a Hare found in the dung of a Wolf, being bound unto any part of the body of him which is troubled with the colick, doth very effectually cure him. The dung of a Wolf with the hairs of a white Ass, taken by any woman in a certain perfume, maketh her apt for conception.

The teeth of a Wolf are unequall, wherefore their bitings are very dangerous. A ravening Wolf by his biting bringeth the same danger, as a ravenous Dog, they also are cured by the same medicines, as we have declared at large in the story of the Dog. The wounds which come by the teeth or nails of a Wolf are very dangerous, for the filth which pierceth through all clouts or sponges which are laid upon them: But they are cured by no other means then the bitings of Dogs: *Aristotle* writeth these things concerning the biting of a Lion, and not of a Wolf.

Johannes Vitus the *Hungarian* declared that there were certain men in *Hungary* bitten by a mad Wolf, and that they were as it seemed presently cured: But before forty dayes expired they all died by a most bitter or painfull disease; small pieces of flesh encreasing through their urine in the form of Dogs, with an exceeding pain or torment. It is also reported of a certain Countreyman, who when he had stricken a Wolf with his Club, and the Wolf had so torn his face with his nails, that he pulled off the skin, he was in short time healed that there appeared no sign of any harm, but in short time after he began to be sick, and to howl like unto a Dog, and so perished; by which it was conjectured that that Wolf was mad. An Oxe being bitten by a mad Wolf or Dog is cured by Garlicke, being beaten and rubbed upon the wound: the Wolf himself is also healed of any wound by old salt flesh applied unto the same. Two drams of Gentian being drunk in wine, is an excellent cure for the bites of a mad Dog and ravening Wolves, as also of all beasts tearing with their teeth or nails. The bites of Wolves being marked in the bodies of any Cattell, are burned or seared with a hot Iron, lest that the biting be assuredly hurtfull, may draw unto it self corruption. And thus much shall suffice concerning the medicines of the Wolf.

Avicenna.

Of the ZEBEL, commonly called a SABEL.

AMong all the kindes of Weasels, Squirrels, Wood-mice, wilde Mice, or other little beasts of the world, there is none comparable to this Zebel, commonly called in *Latine* *Zebellus*, and *Zobela*, from whence the *Germans* call it *Zobel*, the *Illyrians* and *Polonians*, *Sobol* and *Soboel*, the *Italians*, *Sesli*, and *Sablins*: The skins hereof are called *Zebelline*, and *Zobelline*, and sometimes *Zibelline*. It is bred in *Muscovia*, and the Northern parts of the World, among the *Lapones*, but no where more plentifull then in *Tartaria*, *Scythia*, and *Sarmatia*, and it is therefore called by some *Mus Scythicus*, the *Scythian* Mouse. The *French* men because of the similitude it hath with a Martin, do call it by a compounded name, *Marteis Soublineis*. It liveth for the most part in the Woods, being lesser then a Martin every way, and hath also shorter legs: They run up and down upon trees like Squirrels, easily fastning their claws in the boughes; when they leap, their tail serveth them instead of a cross Beam to direct them. They bite most irefully, for their teeth are as sharp as Razors, and there is no beast in the World of their quantity so angry and terrible as they: their flesh is unprofitable and good for nothing. The only price and estimation of this beast is for the skin, which farre excelleth all the skins of the World, either Ermins, Martins, or Foines, differing herein from the Martins, because their hair is thinner, and if you stroke them from the head to the tail, or on the contrary from the tail to the head, they do lie every way smooth, whereas the Martins do only fall smooth from the head to the tail.

These are more subject to Worms then other skins, except they be continually worn, or laid up with bunches of Wormwood; but above all other things the laying of them open one day together in the Sun or air, doth him more harm then a whole years wearing, for the beast it self liveth evermore in shadowy places, forbearing the sun except she be hunted, and catcheth small birds in secret. In the furthest part of *Lituania* they have little or no money, and therefore the Merchants which traffique thither do exchange their wares for Zebel or Sabel skins; those are the best which have

have most white and yellow hairs mingled in them, and the Garments of Princes are only fringed and lined with these *Sabel* skins, and honourable Matrons, ancient Noble men and their Wives do likewise use two or three of these to wear about their necks; for it is certain that a garment of these skins is much dearer then cloth of Gold, and I have heard and also read, that there have been two thousand Duckets payed for so many as were put in one Cloak.

It is a very libidinous and lustfull beast, and at that time stinketh very rankfully, wherefore it mingleth it self with Martins of all sorts that it meeteth. And thus much shall suffice to have discoursed of this little beast. Now there are divers other which seem to be of this kinde, of which, though I have not much to say, yet rather then they should be omitted, I will expresse their bare names, that so I may give occasion to all our Countrey-men that shall travail into other Nations, to make enquiry after them, that so at their return, if they have any conscience of publique good, they may get themselves eternall fame and names, by communicating publicly their own knowledge, experience, and learning, which they have gained in these, or other Four-footed beasts.

Of the NOERTS.

THis beast is of the quantity of a Weasel, and by the *Germans* called *Noerts*, and *Nerts*, from which word the *Latines* have their *Noerza*, for this beast. It liveth (as *Georgius Agricola* writeth) in the Woods, betwixt *Suevia* and *Vistula*, the colour of the hairs which is short and smooth, is for the most part like an Otters. Their skins are sold at *Franckford* by forty in a heap or bundle, they are long, and more red then the Ferrets, every bundle most commonly is sold for six and twenty Nobles. Some think that this is the *Latax*, spoken of before, because it getteth his living in the waters.

Of the VARMEL.

THis beast is called by the *Latines* *Vormela*, by the *Germans* *Wormiein*, it is lesse then a Ferret, the belly whereof is black, all the residue of the skin full of white, pale, red, and yellow spots, which adorneth it in admirable manner, very comely and excellent to be looked upon, the tail not past half a hand breadth long, the tip whereof is black, but the hairs of the residue mixed with white and ash colour together.

There is another beast which for the variety of the colours, which are apparent in his skin, he is called a *Salamander*, not that which liveth in the fire, but one like unto it, having a gentle hair, distinguished all over into black and yellow spots, and these because of our ignorance we reckon among our outlandish Weasels.

In *India* there is a little beast called *Ghiurca*, having a very precious skin, and this (as *Cardan* writeth) hath a bag under the belly, wherein it suffereth his young ones to go in and out, as before we have said of the *Simivulpa*, or Foxe-Ape.

There is another little beast in *Hungaria*, called *Uncken*, which dwelleth in holes of the earth as Conies do, the outward proportion whereof is like a Weasel, but it is much thinner and longer, the colour of the back is red, and all the residue of the body Mouse colour. Now although I do not read any speciall use of the skin of this beast, yet I thought it good to name it in this place, because it is reported that the breathing thereof upon the face of man is venemous and poysonfull, for when Souldiers sleep in their tents upon the earth, they come many times and look in their faces and poyson them: And thus much for the *Zebel*, and the severall kindes of this little beast.

Of the ZIBETH, or SIVET-CAT.



THe best description that is of this beast in all the World, that I could ever finde, was taken by Doctor *Cay*, and thus sent as it is here figured to Doctor *Gesner* with these words following. There came to my sight (saith Doctor *Cay*) a *Zibeth* or *Sivet* very lately, which was brought out of *Africa*, the picture and shape whereof in every point I caused to be taken, which is this prefixed, so that one Egge is not more like another, then this is to the said *Sivet* or *Zibet*. It is greater then any

any Cat, and lesser then a *Taxus*, having a sharp face like a Martin, a short, round, blunt ear, which was black without, but pale within, and on the brims a blew sky-coloured eye, a foot and leg black, and more broad or open then a Cats: Likewise a black claw, neither so crooked, nor so hid in the foot as it is in a Cat, but their teeth are more fearfull and horrible. It is all spotted over the body, but the nose thereof is black, the nether part of the upper chap pale, and the middle part black, and from thence to the top of the head it is of the colour of a Badger. The lower chap was all black, and the bristles of the upper chap were white, growing forth of a pale skin, and a little above the eye there were two other white ones growing forth of a black skin.

The throat thereof was black, and a little above the eye there arise three black lines or strakes, whereof the first or uppermost descendeth down right to the throat, the second descendeth compass in and out to the middle of the neck, and the third down to the shoulder, and then a little beneath that place on the contrary, arise two other black lines like circles ascending in the compass of the shoulder to the back bone: and all the residue of the body is distinguished and parted into many colours, having divers and sundry black spots scattered abruptly throughout the whole circuit, whereof some are continued and joyned together. For that which is upon the back is continued from the shoulder, and the second and third arising in that part, are broken and divided, the fourth and all the residue are in like sort discontinued and separated one from the other, so that their position runneth all in length.

The first part of his tail to the middle is spotted, and all the residue black. The hair both on the face, legs, and feet, is soft, and very gentle to be handled, falling down, but in all other parts of the body, it is harsh, deep, and standing upright: the spots doth both ascend and descend, the tongue hereof was smooth and not rugged, and under the tail was the passage for the excrements after the fashion in other beasts, and a little beneath the same was the receptacle or bag containing the Sivet, and a little space after that the privy part of the male which was hid or sheathed in the body. The beast being moved to anger, uttereth a voyce like to the voyce of an angry Cat, withall doubling the letter R R. but being not angry the voyce is like a young Cats although lower.

This *Zibeth* was in length from the head to the tail, one foot, three palms, and one Roman fingers breadth, but the breadth thereof under the belly, was one foot, two palms, and three Roman fingers. It was a gentle and tractable Creature, and was sold for eight pounds of English money, which was in French twenty four Crowns, or in Florens forty and eight. These things are said by Doctor Cay. Now unto this *Gesner* addeth, that he received such another Picture from one *Johannes Kentmannus*, which he took by another of these Cats in the possession of the Duke of Saxony, and he said that it was bought by him for seventy Taters (every Tater being worth in our English money eight pence half penny) in the year of the Lord, 1545. This beast is a very clean beast, I mean, a hater of filthinesse: and therefore the place wherein it lyeth must be swept every day, and the Vessels clean washed. The Sivet or liquor distilled out of the Cod, must be taken away every second or third day, or else the beast doth rub it forth of his own accord upon some poste in his kennel, if he be tamed or inclosed. This Sivet is an Excrement not growing in the secret part only, but in a peculiar receptacle by it self, increasing every day the weight of a groat; the colour whereof at the beginning is like Butter, but afterwards it groweth more sad and brown: one ounce of it if it be pure and not sophisticated, is sold for eight Crowns at the least. There be Impostors, which do adulterate it with an Oxes gall, Styra, and Hony. This is of a strange savour, and preferred before Musk by many degrees, yet it smelleth worse if it be held hard to the nose: It is said that the liquor running out, doth go back again if any Vessel be put to receive it, except it be a Silver Spoon or Porringer.

Leo Afer saith, these Beasts are wilde; untamable, and live upon flesh, but the European Merchants buy of the young ones and nourish them tame, with Bran, Milk, hard Egges, and other things, and that so they convey them into Europe out of *Africk*, emptying their Codstwicke or thrice a day in the hot Countreys; and that this Sivet is nothing else but the sweat of the beast under the ribs, fore-legs, neck, and tail. There were divers of these *Zibeths* tamed among other. It is reported of a Consul of the Florentine Merchants at *Alexandria*, that had one of these so tame, that it would play with a man, and bite his nose, ears, cheeks, or lips so gently that it should not be felt, the reason whereof was given, because it was at the first nourished with the milk of a Woman. Cardinall *Galeottus* had three of these at Rome, which he kept for their Sivet: And *Otho* Duke of *Bavaria*, had also one which he nourished with Sugar. They are bred in *Ethiopia* and *India*, about the City *Pegu* and *Tarnasari*. Their Sivet is not savoury till it be washed and cleansed. It is said to be very excellent against the strangulations of the wombe; and it is good against the Colick: It hath also vertue to purge the wombes of women, to purge the brain, and is applyed to many other diseases and infirmities.

The end of the History of Four-footed Beasts.

THE
HISTORY
OF
SERPENTS.

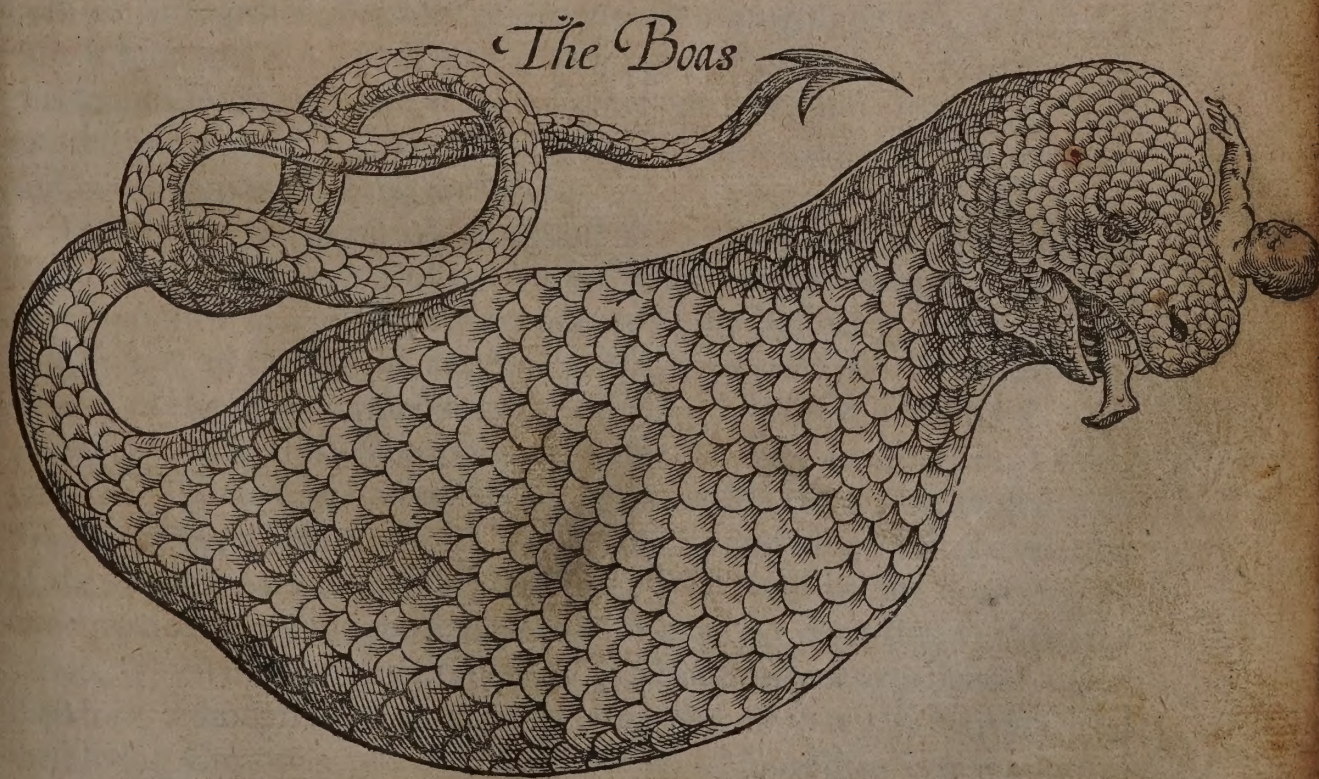
OR,
The second Book of living Creatures:

WHEREIN IS CONTAINED

Their Divine, Natural, and Moral descriptions, with their
lively Figures, Names, Conditions, Kindes, and Natures of all venomous
BEASTS: with their several Poysons and Antidotes; their deep harred to
Mankinde, and the wonderful work of God in their Creation, and Destruction.

Necessary and profitable to all sorts of Men: Collected out of divine Scriptures,
Fathers, Philotophers, Physitians, and Poets: amplified with sundry accidental
Histories, Hieroglyphicks, Epigrams, Emblems, and Ænigmatical Observations.

By EDVVARD TOPSELL.



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THE
HISTORY
OF
SERPENTS
OR
The Second Book of living Creatures:

WHEREIN IS CONTAINED
Their Divine, Natural, and Moral Properties, with their
Lively Figures, Figures, Conditions, Kinds, and Manners of all venomous
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By EDWARD TORSSELL.





To the Reader.



Entle and pious Reader, although it be needlesse for me to write any more of the publishing of this Treatise of Venemous Beasts, yet for your better satisfaction and direction, briefly take this which followeth.

After the publishing of the former book of *Four-foot-ed Beasts*, I understood of two things much misliked therein, wherein I also my self received a just offence.

First, the manifold escapes in the Presse, which turned and sometimes over-turned the sense in many places, (especially in the *Latine*) which fault as it may in part concern me, so yet it toucheth another more deeply, yet are both of us excusable: He in wanting the true knowledge of the *Latine* Tongue; and I, because of my employment in my Pastorall charge, and both of us together, because we were not so thoroughly estated, as to maintain a sufficient Scholar to attend only upon the Presse. Wherefore, in this second Book, we have removed away that blot, and used a more accurate diligence, and I trust there is no escape committed perverting the sense, and not very many altering the letters.

The first fault
is in this Edition
amended.

The second exception taken against the former Treatise, was the not Englishting or translating of the *Latine* Verses, which thing I purposed to have done, if I had not been overhastened in the businesse; for it had been to the work an Ornament, and to the History a more ample declaration: This fault I have now amended in the setting forth of this second Book of *Living Creatures*. All therefore that can be said for your direction, I could wish the History more compleat for the manifestation of the most blessed *Trinities* glory, whose works are here declared; and for the better revelation of the severall natures of every Serpent. I may fail in the expressing of some particular, yet I suppose that I have omitted no one thing in their narration, which might be warranted by good authority or experience. And therefore, although I cannot say that I have said all that can be written of these living Creatures, yet I dare say I have wrote more then ever was before me written in any Language.

To the Reader.

Now therefore ask the Creatures (after God) and they will tell you: For, saith S. Austin, *Interrogatio creaturarum profunda est consideratio ipsarum: responsio earum, attestatio ipsarum de Deo, quoniam omnia clamant, Deus nos fecit.* The asking of the Creatures is a deep and profound consideration of their severall natures: their answer is, their attestation or testimony of God, because all of them cry out, *The Lord hath made us.* Wherefore, seeing it is most true, *incognita non desiderantur*, things unknown are not desired, to the intent that all true English Christians may hereafter more affectionately long after and desire, both the mysticall vision of God in this World, and also his perfect sight in the World to come, I have (for my part) out of that weak ability wherewith I am endued, made known unto them in their own mother Tongue, the wonderfull works of God; for the admiring of Gods praise in the Creatures, standeth not in a confused ignorance, not knowing the beginnings and reason of every thing, but rather in a curious and artificiall investigation of their greatest secrets.

Therefore, let all living men consider every part of divine wisdom in all his works; for if it be high, he thereby terrifieth the proud; by the truth he feedeth the great ones; by his affability he nourisheth the little ones. And so I will conclude my Preface with the words of the three Children: *O all ye works of the Lord, praise him and magnifie him for ever.*

Edward Topsell.

A GENERAL TREATISE
OF
SERPENTS,
DIVINE, MORAL, and NATURAL.

Of the Creation and first Beginning of SERPENTS.



Here is no Man that can justly take exception that this History of Serpents beginneth at their Creation: for seeing our purpose is, to set forth the works of GOD, by which as by a clear glass, he endeavoureth to disperse and distribute the knowledge of his Majesty, Omnipotency, Wisdom and Goodness, to the whole race of Mankind, it seemeth most proper that the first stone of this building, laid in the foundation be fetched from the Creation: and the rather, because some Naturalists (especially amongst the ancient Heathen) have taken the Original of these venomous Beasts, to be of the earth, without all respect of Divine and Primary Creation. And hereunto some Hereticks, as

the *Manichees*, and *Marcianites*, have also subscribed, though not directly; for they account the Creation of these venomous and all hurtful Beasts an unworthy work for the good GOD, because they could never see any good use of such creatures in the World.

*Augustine.
Epiphanius.*

Yet we know the blessed Trinity created the whole frame of this visible World by it self, and for good, reasonable, and necessary causes, framed both the beneficial and hurtful Creatures, either for a Physical or Metaphysical end. Therefore it is most certain, that if we consider the outward parts of these Creatures endued with life, no man nor nature could begin and make them, but the first Essence or Fountain of life: and if we can be brought to acknowledge a difference betwixt our shallow capacity, and the deep wisdom of God, it may necessarily follow by an unavoidable sequel, that their uses and ends were good, although in the barrenness of our understanding, we cannot conceive or learn them. But I purpose not to follow these things Philosophically by arguments, but rather Divinely by evident demonstration of the things themselves. And first of all, it appeareth, Gen. 1.24. that God brought out of the earth *all creeping things after their kinde*: And lest that any man should doubt, that under the general name of creeping things, Serpents, and other venomous Beasts, were not intelligibly enough expressed, it is added Chap. 3. 1. *That the Serpent was more subtle then all the Beasts of the field which God had made*. The Prophet David also, Psal. 148. 7. among other things which are exhorted by the Prophet to praise their Creator, there are named Dragons, which are the greatest kinde of Serpents. Unto this also alluded S. James, ch. 3. 7. saying: *That the whole nature of Beasts, and of Birds, of creeping things and things in the Sea is tamed by the nature of Man*: for Man, which is next unto God, hath authority and power, to rule over all his works, and therefore over Serpents.

Zanchinus.

And herein it is fit to shew, what wonders men have wrought upon Serpents, taming and destroying them rather like Worms and Beasts, no ways enemies to mankind, but friendly, and endued with sociable respect, or else as weaklings commanded by a superior power. Such an one was *Atyr* a notable Inchanter, who by touching any Serpent brought it into a deadly sleep: according to these verses;

*Nec non Serpentes diro exarmare veneno,
Doctus Atyr: tactuque graves sepire chelydras.*

In English thus;

*The cunning Atyr, Serpents fierce, of poyson did disarm,
And Water-snakes to deadly sleep, by touching he did charm.*

E e e 2

Alvius

Alvisus Cadamustus, in his description of the new World, telleth an excellent history of a *Ligurian* young man, being among the *Negroes* travelling in *Africk*, whereby he endeavourerh to prove, how ordinary and familiar it is to them, to take and charm Serpents, according to the verse of the Poet :

Frigidus in pratis cantando rumpitur anguis.

That is,

The cold-earth-snake in Meadows green,

By singing, broke in pieces may be seen.

The young man being in *Africk* among the *Negroes*, and lodged in the house of a Nephew to the Prince of *Budoniel*, when he was taking himself to his rest, suddenly awaked by the hearing the unwonted noise of the hissing of innumerable sorts of Serpents; whereat while he wondred, and being in some terror, he heard his Host (the Princes Nephew) to make himself ready to go out of the doores, (for he had called up his servants to saddle his Camels:) the young man demanded of him the cause, why he would go out of doores now so late in the dark night? to whom he answered, I am to go a little way, but I will return again very speedily: and so he went, and with a charm quieted the Serpents, and drove them all away, returning again with greater speed then the *Ligurian* young man his guests expected. And when he had returned, he asked his guests if he did not hear the immoderate hissing of the Serpents? and he answered, that he had heard them to his great terrour: Then the Princes Nephew (who was called *Bisboror*) replied, saying; they were Serpents which had beset the house, and would have destroyed all their Cattel and Herds, except he had gone forth to drive them away by a charm, which was very common and ordinary in those parts, wherein were abundance of very hurtful Serpents.

The *Ligurian* young man hearing him say so, marvelled above measure, and said, that this thing was so rare and miraculous, that scarcely Christians would believe it. The *Negro* thought it as strange that the young man should be ignorant hereof, and therefore told him, that their Prince could work more strange things by a charm which he had, and that this and such like were small, vulgar, and not to be accounted miraculous. For when he is to use any strong poyson upon present necessity, to put any man to death, he putteth some venom upon a sword, or other piece of Armor, and then making a large round circle, by his charm compelleth many Serpents to come within that circle, he himself standing amongst them, and observing the most venomous of them all so assembled, which he thinketh to contain the strongest poyson, killeth him, and causeth the residue to depart away presently; then out the dead Serpent he taketh away the poyson, and mixeth it with the seed of a certain vulgar tree, and therewithal anointeth his dart, arrow, or sword's point, whereby is caused present death, if it give the body of a man but a very small wound, even to the breaking of the skin, or drawing of the blood. And the said *Negro* did earnestly perswade the young man to see an experiment hereof, promising to shew all as he had related, but the *Ligurian* being more willing to hear such things told, then bold to attempt the trial, told him, that he was not willing to see any such experiment. And by this it appeareth, that all the *Negroes* are addicted to Incantations, which never have any approbation from GOD, except against Serpents, which I cannot very easily be brought to believe.

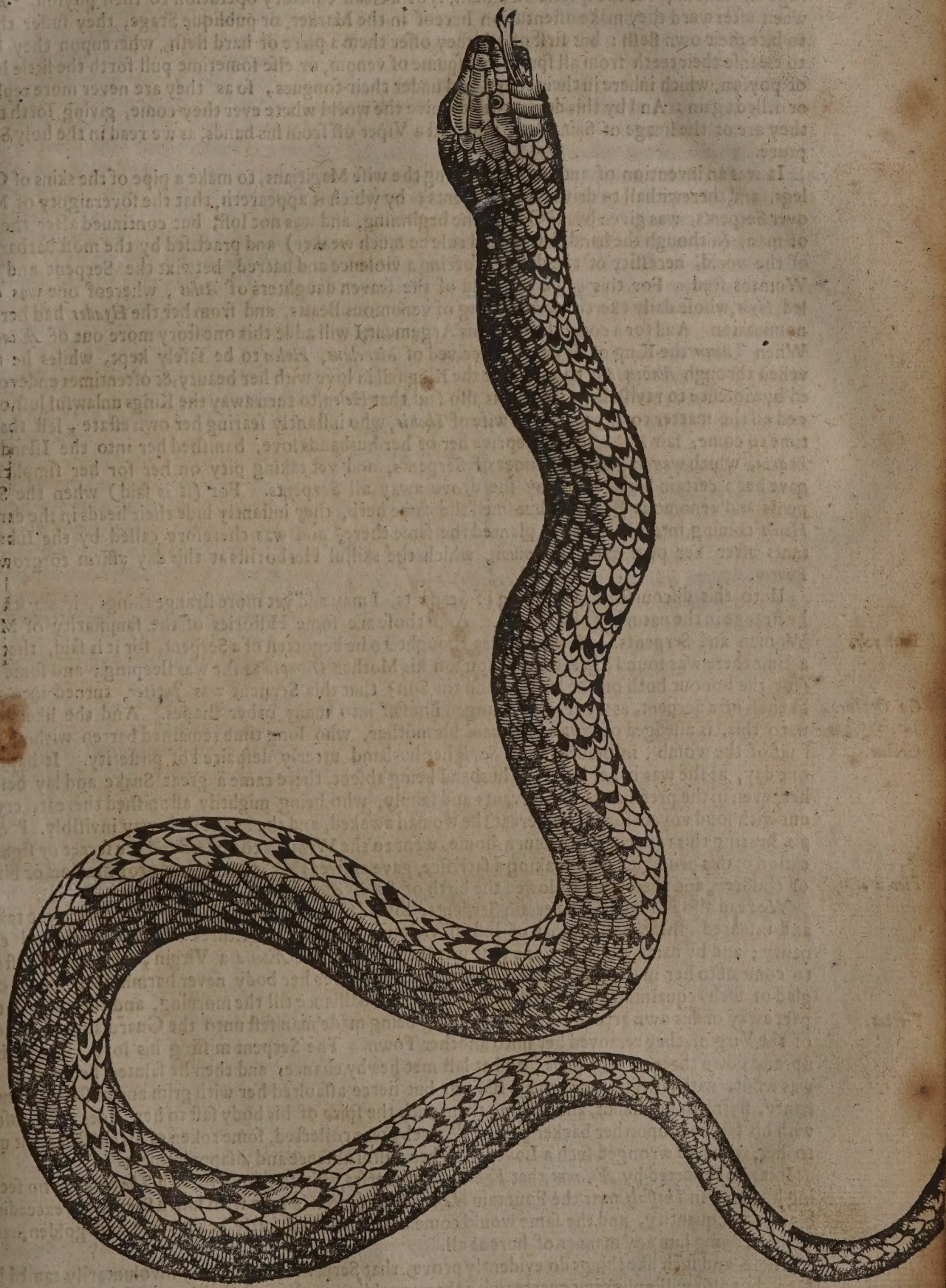
And seeing I have entered into this passage of Charming, being (no doubt) an invention of Man, and therefore argueth his power to tame these venomous Beasts, according to the former saying of Saint *James*, although I condemn such courses utterly, yet it is lawful to prosecute the same, seeing the holy Ghost, Psalm 58. vers. 4, 5. affirmeth a practise against Serpents, a dexterity and ripeness in that practise, and yet an impossibility to affect any good, except the voyce of the Charmer come to the ear of the Adder: For thus he writeth; *Their poyson is like the poyson of a Serpent, like a deaf Adder that stoppeth his ear.* 5. *Which heareth not with the voyce of the Inchanter, though he be most expert in cunning.* Upon which words Saint *Augustine*, Saint *Jerom*, and *Cassiodorus* writing, say; that when the Charmer cometh to Inchant or Charm, then they lay one of their ears to the earth so close, as it may not receive the sound, and their other ear they stop with their tail. I will therefore yet add somewhat more of this taming of Serpent.

I have heard a Gentleman of singular learning, and once my worshipful good friend, and dayly encourager unto all good labours, report divers times very credibly, upon his own knowledge and eye-sight, that being at *Padua* in *Italy*, he saw a certain Quack-salver, or Mountebanck upon a stage, pull a Viper out of a box, and suffered the said Viper to bite his flesh, to the great admiration of all the beholders, receiving thereby no danger at all. Afterward he put off his doublet and shirt, and shewed upon his right arm a very great unwonted blew vein, standing beyond the common course of nature; and he said, that he was of the lineage of Saint *Paul*, and so were all other that had such veins, and that therefore (by special vertue to that Family given from above) no Viper nor Serpent could ever annoy or poyson them: but withall, the fellow drank a certain compound water, or antidote, for fear of the worst, and so at one time vented both his superstitious hypocrisie, and also much of his Antidote to his great advantage.

But I have since that time also read, in *Matthiolus* his Commentaries upon the sixth Book of *Dioscorides*, that there were wont to be many such Juglers in *Italy*, carrying in their bosomes living Serpents, of whose fraudulent Impostures he speaketh in this sort. They take Serpents in the

Winter

Mr. Will.
Morley of
Glynde in
Suffex.



Winter time, when they grow dead and stiffe through cold, & yet for their better defence against their venomous biting, they defend themselves by a certain experimental unguent, known to be practised in this sport, made of the Oyl pressed out of wilde Radish, the roots of Dragonwort, the juyce of Daffodil, the brain of a Hare, the leaves of Sabine, sprigs of Bay, and some other few things thereunto added. As soon as they have taken them, they instantly all to spet upon their heads, for by reason of a secret antipathy in Nature, they grow very dull thereby, and lay aside the force and rage of venom; for the spetle of a Man, is of a clean contrary operation to their poyson. And when after ward they make ostentation hereof in the Market, or publique Stage, they suffer them to bite their own flesh: but first of all, they offer them a piece of hard flesh, whereupon they bite to cleanse their teeth from all spawn and spume of venom, or else sometime pull forth the little bags of poyson, which inhere in their chaps, and under their tongues, so as they are never more repleat or filled again: And by this deceit they deceive the world where ever they come, giving forth that they are of the lineage of Saint Paul, who cast a Viper off from his hands, as we read in the holy Scripture.

It was an invention of ancient time among the wise Magitians, to make a pipe of the skins of Cats legs, and therewithall to drive away Serpents; by which it appeareth, that the soveraignty of Man over Serpents, was given by GOD at the beginning, and was not lost, but continued after the fall of man, (although the hand that should rule be much weaker) and practised by the most barbarous of the world, necessity of the defence forcing a violence and hatred, betwixt the Serpent and the Womans seed. For this cause we read of the seaven daughters of *Atlas*, whereof one was called *Hym*, whose daily exercise was hunting of venomous Beasts, and from her the *Hyades* had her denomination. And for a conclusion of this Argument, I will adde this one story more out of *Ælianus*. When *Thonis* the King of Egypt had received of *Menelaus*, *Helen* to be safely kept, whiles he travelled through *Æthiopia*, it hapned that the King fell in love with her beauty, & oftentimes endeavoured by violence to ravish her; then, it is also said, that *Helen*, to turn away the Kings unlawful lust, opened all the matter to *Polydamna* the wife of *Thonis*, who instantly fearing her own estate, lest that in time to come, fair *Helen* should deprive her of her husbands love, banished her into the Island of *Pharus*, which was full of all manner of Serpents, and yet taking pity on her for her simplicity, gave her a certain herb, whereby she drove away all Serpents. For (it is said) when the Serpents and venomous Beasts do but smell the same herb, they instantly hide their heads in the earth. *Helen* coming into that Island planted the same there, and was therefore called by the Inhabitants after her own name *Helenium*, which the skilful Herborists at this day affirm to grow in *Pharus*.

Unto this discourse of the taming of Serpents, I may add yet more strange things, if any thing be strange in the nature of this world. And those are some Histories of the familiarity of Men, Women and Serpents. *Alexander* was thought to be begotten of a Serpent, for it is said, that on a time there was found a great Serpent upon his Mother *Olympia* as she was sleeping; and some say (for the honour both of the Mother and the Son) that this Serpent was *Jupiter*, turned into the likeness of a Serpent, as we read he changed himself into many other shapes. And the like story unto this, is alledged of *Scipio Africanus* his mother, who long time remained barren without the fruit of the womb, insomuch as *P. Scipio* her husband utterly despaired of posterity. It hapned one day, as she was in her bed, her husband being absent, there came a great Snake and lay beside her, even in the presense of the servants and family, who being mightily astonished thereat, cryed out with loud voyces for fear, whereat the woman awaked, and the Snake slid away invisibly. *P. Scipio* hearing this report at his return home, went to the Wizards to understand the secret or signification of this prodigie: who making a sacrifice, gave answer that it betokened prolification, or birth of children, and thereupon followed the birth of *Scipio Africanus*.

We read also in *Plutarch* of certain Serpents, lovers of young Virgins, who after they were taken and insnared, shewed all manner of lustful, vitious, and amorous gestures of uncleanness and carnality; and by name, there was one that was in love with one *Ætolia* a Virgin, who did accustom to come unto her in the night time, sliding gently all over her body never harming her, but as one glad of such acquaintance, tarried with her in that dalliance till the morning, and then would depart away of his own accord: the which thing being made manifest unto the Guardians and Tutors of the Virgin, they removed her unto another Town. The Serpent missing his love, sought her up and down three or four days, and at last met her by chance, and then he saluted her not as he was wont, with fawning, and gentle sliding, but fierce assaulted her with grim and austere countenance, flying to her hands, and binding them with the spire of his body fast to her sides, did softly with his tail beat upon her backer parts. Whereby was collected, some token of his chastisement unto her, who had wronged such a Lover with her wilful absence and disappointment.

It is also reported by *Ælianus*, that *Egemon* in his verses, writeth of one *Aleva* a *Thessalian*, who feeding his Oxen in *Thessaly*, near the Fountain *Hamonius*, there fell in love with him a Serpent of exceeding bigness and quantity, and the same would come unto him, and softly lick his face and golden hair, without doing him any manner of hurt at all.

These, and such like things do evidently prove, that Serpents are not only involuntarily tamed by Men, but also willingly keep quarter with them, yeelding to the first Ordinance of the Creator, that made them subjects and vassals to men. And thus much shall suffice to have spoken in this place, concerning the first cteation of Serpents.

Plutarch.

Ca. Oppian.
Jul. Higinius.
Gellius.

Pierius.

Pierius.

Of the natural Generation of SERPENTS, and their several Originals.

IT being thus cleared, that Serpents were at the beginning created by GOD, and are ruled by men, it now followeth, that we should in the next place talk of the matter of their beginning, and the means of their continuance ever since their Creation.

First therefore it is most plain in Genesis, that the Earth (by the vertue of the Word of GOD) did produce all Creeping things, and among them Serpents: but since that time, they have engendered both naturally, and also prodigiously.

As concerning their constitution, it is held to be most cold, above all other living Creatures; *Pliny*. and therefore *Pliny* writeth, that they have neither heat, nor blood, nor sweat. Hereunto subscribeth *Galen* and *Rasis*; yet *Avicen* seemeth to affirm the contrary. *Mercurius* decideth this controversie, and proveth that Serpents are extreemly cold, and their bodies outwardly moist. First, because those which are stung and poysoned by Serpents, are oppressed with an unnatural cold, which overcome natural heat, and distendeth all their parts, vexing them intolerably. Secondly, there can be assigned no other reason why these Creatures hide themselves four moneths in the year, but only their natural cold, making them so tender, as they are altogether unfit to endure any external frigidty. Thirdly, if a man take a Snake or a Serpent into his handling in the midst of Summer, and warmest part of the year, yet shall he perceive that they are cold in a palpable manner being alive, which is not a quality competent to any other creature. Fourthly, seeing that blood is the proper and native seat of all heat in natural living bodies, Serpents having a very small quantity of blood, must also have a smaller proportion of heat: and therefore it followeth unavoidably, that the eminency of their temperament is cold in the highest degree, above all other living Creatures. And that their bodies be outwardly moist, it appeareth (saith *Isidorus*) by this, that when they slide along upon the Earth, (which way soever they go) they leave behinde them in their train or path a slimy humour.

By this therefore it is confirmed, that they are of the Earth and of the Water, as afterward we shall shew in the description of their kinds. But yet there are prodigious beginnings of Serpents, whereof some seem to be true, and other to be fabulous. The first sort are those which *Pliny* affirmeth to be engendred of the marrow in the back-bone of a man, and that indifferently, out of the dead bodies of good and evill men. Yet some more modest, thinking it unreasonable, that the remnants of a good meek man, should beget or be turned into so barbarous, venomous, and cruel a nature; rather taking it for granted, that peace and quietness is the reward of such persons, attribute these beginnings or alterations to the bodies of wicked men, as a just deserved punishment of their former evils, that the reversions of their bodies should after death turn into Serpents, whom they resembled being alive in the venomous fraud of their spirits. Of this *Ovid* speaketh.

*Sunt quæ cum clauso putrefacta est Spina sepulchro,
Mutari credunt humanas angue medullas.*

Which may be thus Englished,

*Some think the putrid back-bone in the grave rack'd,
Or marrow chang'd, the shape of Snakes to take.*

In Egypt, as Frogs and Mice are engendered by showres of rain, so also are Serpents: And *Avicen* *Macrobius*, saith, that the longest hairs of women are easily turned into Serpents. *Nicander* dreameth, that all venomous Beasts are engendered of the blood of the Titans or Giants. *Acusilaus*, of the blood of *Typhon*. *Apollonius Rhodius*, of the drops of blood which do distil from *Gorgons*. *Virgilius* saith, that dung being laid in a hollow place, subject to receive moisture, engendereth Serpents. Of the *Gorgons* drops, *Ovid* writeth thus;

*Cumque super Lybicas victor penderet arenas,
Gorgonei capitis gutta cecidere cruenta,
Quas humus exceptas, varios animavit in angues,
Unde frequens illa est infestaque terra colubris.*

Which may thus be Englished:

*And as he over-flew
The Lybick sands, the drops of blood that from the head did fell
Of Gorgon being new cut off, upon the ground did fall,
Which taking them, and as it were conceiving them withall,
Engendred sundry Snakes and Worms: by means whereof that Clime
Died swarm with Serpents ever since, to this same present time.*

But most strange of all other, are the succeeding Narrations. For it is reported that when *L. Scipio*, and *C. Norbanus* were Consuls, that the Mother of *Clustus* in *Hetruria*, brought forth a living Serpent in stead of a childe, and the said Serpent by the command of the Wizards was cast into a River, nevertheless it would not drown, but swimm'd against the stream. And *Pliny* saith, that at the beginning of the *Morsyck* war, there was a maid-servant that brought forth another Serpent. And

Faustina

Obsequens.

Faustina the Empress dreamed that she brought forth Serpents, when she was with childe of *Commodus* and *Antoninus*, and one of these Serpents seemed more fierce then the other, which proved allegorically true: for afterward *Commodus* was so voluptuous and tyrannous, that he seemed like a Serpent to be born for nothing, but for the destruction of mankind.

In the year of our Lord 1551. there was a little *Latine* Book printed at *Vienna*, wherein was contained this History following. In this Summer (saith the Book) about *S. Margarets* day, there happened most rare and admirable accidents: for near a Village called *Zichsa*, by the River *Ibeose* in *Hungaria*, there were many Serpents and Lizards bred in the bodies of men, very like to such as are bred in the earth, whereupon they fell into exquisite torments: and there dyed of that calamity, about three thousand, and some of the bodies being laid against the Sun gaping, the Serpents came forth of their mouths, and suddenly entred into their bellies again. Amongst other, there was a certain Nobleman's daughter which dyed of that malady, and when she was dissected or ripped, there were found in her body two great Serpents. These things seem to be miraculous, and above the order of Nature: yet credible, because in our experience in *England*, there have been Worms like Serpents found in the bodies of men, whereof some have been ejected the parties being alive, and other when as the parties were dead. But that these beginnings of Serpents being unnatural, are Divine and sent from God as scourges, it may appear by another notable History, recorded in the aforementioned Book, both in the same year, and in the same Countrey.

There was (saith mine Author) found in a mow or ryck of Corn, almost as many Snakes, Adders, and other Serpents, as there were sheafs, so as no one sheaf could be removed, but there presently appeared a heap of ugly and fierce Serpents. The Countrey-men determined to set fire upon the Barn, and so attempted to do, but in vain, for the straw would take no fire, although they labored with all their wit and policy to burn them up. At last, there appeared unto them at the top of the heap a huge great Serpent, which lifting up his head spake with mans voice to the Countrey-men, saying: Cease to prosecute your devise, for you shall not be able to accomplish our burning, for we were not bred by Nature, neither came we hither of our own accord, but were sent by God to take vengeance on the sins of men. And thus much for the true and natural beginnings of Serpents.

Now we read in read in holy Scripture, that the rod of *Moses* was turned into a Serpent by divine miracle, whereby he was assured of the power that God would give him to deliver his people *Israel* out of *Egypt*, which land abounding with Serpents, both natural bred in the earth, and moral, such are crafty and politick Princes and people: yet *Moses* should take them as he did his Serpent by the tail, and cause them to bend unto him like as it were a wand, or else some other little walking staffe: and also that his power should be unresistible, because his Serpent devoured others. The Magicians or Sorcerers, (as *Jannes* and *Jambres*) resisted him, and also turned their rods into Serpents. But *Moses* did it by true piety, they by diabolical delusions, as false Christians many times work miracles by outward signes of true piety, and therefore *Moses* rod overcame the Sorcerers Serpents, because the end of fraud and falsehood is, to be overcome by truth and piety.

From this changing of rods into Serpents, came the several metamorphosing of sundry other things into Serpents also, as that tale of *Orpheus* head, after he was torn in pieces by the *Thracian* women; and the same thrown into a River, was taken up in *Lemnos*. The Poet describeth it thus;

*Hic ferus exposito peregrinis anguis arenis
Os petit, & sparsos stillanti rore capillos
Lambit, & hymniferos inbiat divellere vultus:*

*Tandem Phœbus adest: morsusque inferre parantem
Arcet, & in Lapidem rictus Serpentis apertos
Congelat, & patulos ut erant indurat hiatus.*

In English thus;

No sooner on the forain coast now cast a land they were,
But that cruel natur'd Snake did straight upon them fly,
And licking on his ruffled hair, the which was dropping dry,
Did gape to tyre upon those lips that had been wont to sing
The heavenly hymnes. But Phœbus straight preventing that same thing,
Dispoins the Serpent of his bait, and turns him into stone,
With gaping chaps, &c. —

So *Isacius Tzetzes* writeth, that when *Tiresia* found Serpents in carnal copulation in *Cithæron*, he slew a female, who presently after death was turned into a Woman, then also he slew a male, who likewise being dead, was in the same place and manner turned into a Man. When *Cadmus* was sent by his Father, to seek out his sister *Europa* that was ravished by *Jupiter*, with straight charge not to return back again except he could finde her, having spent much time in seeking her to no purpose, because he could not finde her, and not daring to go back again to his father; he was warned by the Oracle that he should go into *Bœotia* to build a City. Coming thither, he sent his companions to the fountain of *Mars* that was in the Countrey to fetch water, where a great Serpent came and killed them; at last, *Cadmus* not finding their return, went likewise to the same Fountain, where he found all his men slain, and the Serpent approaching to assail him, but he quickly killed it. Afterward he was admonished by *Pallas*, to strew the teeth of the same Serpent upon the ground, which he performed, and then out of those teeth (saith *Ovid*) arose a multitude of Armed men, who instantly fell to fight one with the other, in such cruel and bloody manner, that at the last there were but five of them all left alive, which five (by the will of *Pallas*) were preserved to be the Fathers of

of the people of *Thebes*. And so *Apollonius* saigneth, that with the help of men bred of Serpent, teeth, came *Jason* to obtain the Golden Fleece.

They saign also, that *Achelus* when he strove with *Hercules* about *Deianira*, turned himself into divers shapes, and last of all into a Serpent, or as some say, into a River. So likewise *Cadmus* afore-said, being overcome with the sight and sense of his own miseries, and the great calamities that befell to his Daughters and Nephews, forsook *Thebes*, and came into *Illyrium*, where it is said, that he earnestly desired of the Gods to be turned into a Serpent, because a Serpent was the first original of all his extremities. *Antipater* saigneth *Jupiter* to be turned into a Serpent; and *Medusa* refusing the love of *Neptune*, is also saigned by *Ovid* to be turned into a Serpent, when he writeth;

*Hanc pelagi rector templo vitasse Minervæ
Dicitur, aversa est & castos Ægide vultus
Nota Jovis textit: neve hoc impune fuisset,*

*Gorgoneum crinem turpes mutavit in Hydros.
Nunc quoque ut attonitos formidine terreat hostes,
Pectore in adverso, quos fecit sustinet angues.*

In English thus;

*It is reported how she should abus'd by Neptune be,
In Pallas Charch, from which foul fact Joves daughter turn'd her eye:
And lest it should unpunisht be, she turn'd her seemly hair
To loathsome Snakes, the which the more to put her foes in fear,
Before her breast continually she in her hand doth bear.*

Pierius writeth, that the myrtle rod was not lawful to be brought into the Temple of *Hecate*, and that a Vine branch was extended over the head of her sign: and whereas it was not lawful to name Wine, they brought it into her Temple under the name of milk, and that therein continually lived harmleis Serpents. The reason of all this was, because that her own Father *Faunus* fell in love with her, whom she resisted with all modesty, although she were beaten with a Myrtle rod, and made to drink Wine; but at last the beastly father was transformed into a Serpent, and then he oppressing her with the spires of his winding body, ravished her against her minde. These and such like stories and Fables are extant about the beginnings of Serpents; all which, the Reader may consider, to stir up his minde to the earnest and ardent meditation of that power that of stones can make men, of Rocks, water; of water, Wine; and of small Rods great Serpents.

Then thus having exprest the Original of Serpents in their Creation, it followeth now to add the residue of this Chapter about their generation. It is a general rule that all Beasts wanting feet and have long bodies, perform their work of carnal copulation by a mutual embracing one of the other, as Lampreys and Serpents: And it is certain, that two Serpents in this action seem to be one body and two heads, for they are so indivisibly united and conjoynd together, and the frame of their body is altogether unapt for any other manner of copulation. When they are in this action they send forth a rank savour offensive to the sense of them that do perceive it: And although like unto many fishes, they want stones, yet have they two open passages wherein lyeth their generative seed, and which being filled, provoketh them to their venereal lust, the seed it self being like a milky humor; and when the female is under the male, she hath also her passages to receive the seed, as it were into the cells of her womb, and there it is framed into an Egge, which she hideth in the earth an hundred in a cluster, about the quantity of a Birds egg, or a great bead, such as are used sometime by women.

And this is general for all Serpents, except Vipers, who lay no Egges, but hatch in their wombs their young ones, as we shall shew at large in their particular history. The Serpent having laid her Egge sitteth upon them to hatch them at several times, and in a year they are perfected into young ones. But concerning the supposed copulation of Serpents and Lampreys, I will not meddle in this place, reserving that discourse to the History of Fishes, and now only it sufficeth in this place to name it, as a feigned invention; although Saint *Ambrose* and other ancient Writers have believed the same, yet *Athenæus*, and of late days *P. Jovius*, have learnedly and sufficiently declared by unanswerable arguments the clean contrary. The Serpents love their Egges most tenderly, and do every one of them know their own, even among the confused heaps of the multitude, and no less is their love to their young ones, whom for their safeguard, sometime they receive into their mouths, and suffer them to run into their bellies: And thus much for the generation of Serpents.

Of the Names of Serpents, and their several parts of Anatomy.

BY Serpents we understand in this discourse all venomous Beasts, whether creeping without legs, as Adders and Snakes, or with legs, as Crocodiles and Lizards, or more neerly compacted bodies, as Toads, Spiders, and Bees, following herein the warrant of the best ancient Latinists, as namely *Cornelius Celsus*, *Pliny* and *Apuleius* do call Lice Serpents, in that their relation of the death of *Pherecydes* the Syrian, who was the Præceptor of *Pythagoras*, of whom it is said *Serpemibus periisse*, to have perished by Serpents, when on the contrary it is manifested he was killed by Lice. *Aristotle* and *Galen* define a Serpent to be animal sanguineum pedibus orbatum & oviparum, that is, a bloody Beast without feet, yet laying egges; and so properly is a Serpent to be under stood.

The

The Hebrews call a Serpent *Nachasch*. *Darcon* and *Cheveia* by the Chaldees : so also *Thaninim* and *Schephiphen*, by the Hebrews ; as Rabbi Solomon, Munster and Pagnine write. The Grecians, *Ophidi* and *Opbis*, although this word do also signifie a Viper in particular, even as the Latine, *Serpens*, or *Serpula* do, sometime a Snake, and sometime an Adder. The Arabians, *Haie*, and *Hadaie*, for all manner of Serpents. And *Testub*, or *Tensu*, or *Agestim* for Serpents of the Wood, likewise *Apantias* and *Atussi*. The Germans, *Eiu schlang* ; which word seemeth to be derived from *Anguis*, by an usual figure, and after the German fashion, preposing *Sch*. The French call it *Un serpent* ; the Italians, *Serpe* & *Serpente* : and *Massarius* saith, that *Scorzo* and *Scorzona*, are general words for all manner of Serpents in Italy, which strike with their teeth. The Spaniards call them *Sierpe* ; the Grecians call the young ones in the Dams belly, *Embrua* ; and the Latines, *Catuli*. And thus much for the names in general, which in holy Scripture is Englished a Creeping thing.

Now it followeth, that I should set down a particular description of all the outward parts of Serpents ; and first of all, their colour is for the most part like the place of their habitation, or abode, I mean like the Earth, wherein they live ; and therefore I have seen some black, living in dung ; some yellow, living in sandy rocks ; and some of other colour, as green, living in trees and fields ; but generally they have spots on their sides and belly, like the scales of fish, which are both white, black, green, yellow, brown, and of other colours also, of which *Ovid* writeth :

——— *Longo caput extulit antro*
Ceruleus Serpens, borrendaque sibila misit.
That is,

The greenish Serpent extold her head from den so steep,
And fearful hissing did send forth from throat so deep.

The frame of their bodies do not much vary in any, except in the feet and length, so that with a reservation of them, we may express their universal Anatomy in one view ; for almost all of them are of the same proportion that is seen in Lizards, if the feet be excepted, and they made to have longer bodies. For they are inclosed in a kinde of shell or crusty skin, having their upper parts on their back, and their neather parts on the belly like a Lizard, but they want stones, and have such manner of places for copulation as fishes have, their place of conception being long and cloven. All their bowels, by reason of the length and narrowness of their bodies, are also long and narrow, and hard to be discerned, because of the dissimilitude of their figures and shapes. Their artery is long, and their throat longer then that : the ground or root of the artery is near the mouth, so as a man would judge it to be under the tongue, so as it seemeth to hang out above the tongue, especially when the tongue is contracted and drawn backward. The head long like a Fishes, and flat ; never much bigger then the body, except in monstrous and great shaped Serpents, as the Boas. Yea, *Aristotle* maketh mention of a Serpent that had two heads ; and *Arnoldus*, of a Serpent in the *Pireney* Mountains, slain by a souldier, that had three heads, in whose belly were found two sons of the said souldier devoured by him, and the back-bone thereof was as great as a mans skull, or a Rams head. And such an one we read in our English story was found in England, in the year 1349. And the 23 year of *Edward* the third, there was a Serpent found in *Oxfordshire*, near *Chippingnorton*, that had two heads and faces like women, one being shaped after the new attire of that time, and another after the manner of the old attire, and it had great wings, after the manner of a Bat.

Holinshead.

The tongue of a Serpent is peculiar, for besides the length and narrowness thereof, it is also cloven at the tip, being divided as it were with very little or small nails points. It is also thin, long, and black of colour, voluble ; neither is there any beast that moveth the tongue so speedily : wherefore some have thought, that a Serpent hath three tongues, but in vain, as *Isidorus* sheweth, for they deceive by the nimbleness thereof. Their ventricle is large, like their maw, and like unto a Dogs, also thin, and uniform at the end. The heart is very small, and cleaveth to the end of their artery, but yet it is long, and sheweth like the reins of a Man : wherefore sometimes it may be seen to bend the tip or lap thereof to the breast-ward. After this followeth the lights, but far separate from it, being simple, full of fibres, and open holes like pipes, and very long : The liver long and simple ; the milt small and round as in Lizards. The gall is for the most part as in fishes, but in Water-snakes it is joyned to the Liver : in other Serpents to the stomach or maw. All their teeth stand out of their mouth, and they have thirty ribs, even as there were among the Hebrews and Egyptians thirty days to every moneth.

Aristotle saith, that as their eyes be small, so also they have the same good hap that befalleth young Swallows, for if by chance they scratch or rend out their eyes, then it is said they have other grow up naturally in their places ; In like manner their tails being cut off, grow again. And generally Serpents have their heart in the throat, the gall in the belly or stomach, and their stones near their tail : Their egges are long and soft, and in their teeth they cary poyson of defence and annoyance, for which cause they desire above all other things to save their heads. Their sight is but dull and dim, and they can hardly look at one side, or backward, because their eyes are placed in their temples, and not in their fore-head, and therefore they hear better then they see. They have eye-lids, for generally no creatures have eye-lids, except those which have hair in the other parts of their bodies ; four-footed beasts in the upper cheek, fowls in the neather, or Lizards which have

Ælianus.
Isidorus.

have eggs, or Serpents which have soft backs. They have also certain passages of breathing in their nostrils, but yet they are not so plain that they can be termed nostrils, but breathing places. Their ears are like to finny Fishes, namely small passages, or hollow places in the backer parts of their head, by which they hear.

Their teeth are like Sawes, or the teeth of Combes joynd one within the other, that so they might not be worn out by grinding or grating together; and yet they bend inward, to the end that they may the better hold their meat in their mouths, being without all other externall help for that purpose; for even those Serpents which have feet, yet can they not apply them to their chaps. In the upper chap they have two longer then all the residue, on either side one, bored thorough with a little hole like the sting of a Scorpion, by which they utter their poyson. Yet there be some good Authors that affirm, that this poyson is nothing else but their gall, which is forced to the mouth by certain veins under the ridge or back-bone. Some again say, that they have but one long tooth, and that a crooked one, which turneth upward by often biting, which sometime falleth off, and then groweth again, of which kinde those are, which men carry up and down tame in their bosoms.

Although they be great raveners, yet is their throat but long and narrow, for help whereof, when they have gotten a booty, they erect themselves upon their tails, and swallow down their meat the more easily. They cannot be said properly to have any neck, yet something they have, which in proportion answereth that part. They have tails like all other creatures, except Men and Apes, and some say that their poyson is contained in their tails, and is from thence conveyed into little bladders in their mouths, therefore the Mountebanks or Juglers, break that bladder, that they may keep them without poyson, but within the space of twenty four hours they are recollected, and grow anew again.

Their bodies are covered over with a certain skin like a thin bark, and upon Serpents it supplyeth the place that scales and hair do upon Beasts and fishes; for indeed, it is a pure skin, and in most things they are like to Fishes, except that they have lights, and Fishes have none: the reason is, they live on the earth, and the Fishes in the sea, and therefore have fins and gills instead thereof. The little Serpents have all their bones like thorns, but the greater, which stand in need of greater strength, have solid bones for their firmitude and better constitution. It is questionable whether they have any milt or no, and some say they have at the time of their laying of egges, and not otherwise. Their place of conception or secret, is large, and standeth far out, beginning beneath, and so arising up to the back-bone double; that is, having one skin or enclosure on either side, with a double passage, wherein the eggs are engendered, which are not laid one by one, but by heaps or clusters together. They have no bladder to contain urine, like to all other Creatures which have feathers, scales or rinde-speckled skins, except the Tortoises: the reason is, because of the exiguity and smallnesse of the assumed humour, and also all the humour acquired, is consumed into a loose and evaporate flesh. And to conclude this Anatomy, I will adde a short description which *Gregorius Macer* a Physitian wrote to *Gesner*, 1558. by his own dissection as followeth, saying.

As I lay at rest in a green field, there came unto me a great Serpent hissing, and holding up her neck, which I suddainly with a piece of wood amazed at a stroak, and so slew without peril to my self. Afterward, sticking her fast to a pale, I drew off her skin, which was very fast and sharp, and I found betwixt the skin and the flesh, a certain little thin skin, descending all upon the body with the outward skin, and this was somewhat fat. And when I came unto the place of excrements I found it like a Fishes, but there issued forth certain filth, farre exceeding in stinking savour the excrements of a man. After I had thus pulled off the skin, it was easie for me to look into the inward parts, which I found to answer the inward Anatomy of fishes and Fowls in some parts, and in other things, there appeared a proper disposition to the Serpent it self. For the Artery *Trachea* was about three or four fingers long, turned about with little round circles, and so descended to the lights, unto which the heart and the bladder containing the gall, did adhere or cleave fast. Then the liver was long, like the Fish *Lucius*, and so a white caul or fatnesse covered both the liver and stomach, which was half a span long: The guts began at the chaps, and so descended down to the place of excrements, as we see they do in Fishes.

Beneath the liver were the guts, upon either side descended a certain nervy or hard vein, unto which the eggs did cleave: which were covered with such little skins as Hens eggs are before they be layd, but yet they were distinguished in seat or place, because of their multitude; for upon either side I found two and thirty eggs. The tongue of the Serpent was cloven, and very sharp, but there appeared not any poyson therein. And so it is evident, that in the vein *Trachea*, heart and lights, it agreeth with Birds; in the liver, guts and caul, it resembleth a Fish, but in the place of the gall, and disposition of the eggs, it differeth from both. And thus farre *Macer*, with whose words I will conclude this Chapter of Serpents Anatomy.

Of the quantity of Serpents, and their abode, food, and other accidents.

SO great is the quantity of Serpents, and their long during age increaseth them to so great a stature, that I am almost afraid to relate the same, lest some suspicious and envious minded persons, should utterly condemn it for fabulous; but yet when I consider not only the plentiful testimonies of worthy and undoubted Antiquaries, and also the evidence of all ages, (not excepting this wherein we live) wherein are and have been shewed publickly many Serpents, and Serpents skins, I receive warrant sufficient to express what they have observed, and assured answer for all future Objections, of ignorant, incredulous, and unexperienced Asses. Wherefore as the life of Serpents is long, so is the time of their growth; and as their kindes be many, (as we shall manifest in the succeeding discourse) so in their multitude, some grow much greater and bigger then other.

Gellius writeth, that when the Romans were in the Carthaginian war, and *Attilius Regulus* the Consul had pitched his Tents near unto the River *Bragrada*, there was a Serpent of monstrous quantity, which had been lodged within the compass of the Tents, and therefore did cause to the whole Army exceeding great calamity, untill by casting of stones with slings, and many other devises, they oppressed and slew that Serpent, and afterward fleyed off the skin and sent it to Rome, which was in length one hundred and twenty feet. And although this seem to a beast of unmatched stature, yet *Possidonius* a Christian Writer, relateth a story of another which was much greater, for he writeth, that he saw a Serpent dead, of the length of an acre of Land, and all the residue both of head and body, were answerable in proportion, for the bulk of his body was so great, and lay so high, that two Horsemen could not see one the other being at his two sides, and the wideness of his mouth was so great, that he could receive at one time within the compass thereof, a Horse and a man on his back both together: The scales of his coat or skin, being every one like a large buckler or target. So that now there is no such cause to wonder at the Serpent which is said to be killed by *S. George*, which was as is reported so great, that eight Oxen were but strength enough to draw him out of the City *Silena*.

Mela.

There is a River called *Rhyndacus* near the Coasts of *Bythinia*, wherein are Snakes of exceeding monstrous quantity, for when through heat they are forced to take the water, for their safeguard against the Sun, and birds come flying over the pool, suddenly they raise their heads and upper parts out thereof, and swallow them up. The Serpents of *Megalana*, are said by *Pausanias* to be thirty cubits long, and all their other parts answerable. But the greatest in the world are found in *India*, for there they grow to such a quantity, that they swallow up whole Bulls and great Stags. Wherefore I do not marvel that *Porus* the King of *India*, sent to *Augustus Caesar* very huge Vipers, a Serpent of ten cubits long, a Tortoise of three cubits, and a Partridge greater then a Vulture. For *Alexander* in his Navigation upon the Red-sea, saith; that he saw Serpents forty cubits long, and all their other parts and members of the same quantity.

Pliny.

Megasth.

Solinus.

Textor.

Strabo.

Ælianus.

Among the *Seyrine*, the Serpents come by great swarms upon their flocks of Sheep and cattel, and some they eat up all, others they kill and suck out the blood, and some part they carry away. But if ever there were any thing beyond credit, it is the relation of *Volateran*, in his twelfth Book of the *New-found Lands*, wherein he writeth, that there are Serpents of a mile long, which at one certain time of the year come abroad out of their holes and dens of habitation, and destroy both the Herds and Heard-men if they find them. Much more favourable are the Serpents of a *Spanish Island*, who do no harm to any living thing, although they have huge bodies, and great strength to accomplish their desires.

Alefius.

Gellius.

Scaliger.

Cardan.

In the Kingdom of *Senega*, their Serpents are so great that they devour whole Beasts, as Goats, and such like, without breaking any one of their bones. In *Calechute*, they are as great as their greatest Swine, and not much unlike them, except in their head, which doth far exceed a Swines. And because the King of that Countrey hath made a Law, that no man kill a Serpent under pain of death, they are as great in number as they are in quantity: for so great is his error, that he deemeth it as lawful to kill a Man as a Serpent.

P. Fagius.

All kindes of Serpents are referred to their place of habitation, which is either the earth, or the waters of the earth; and the Serpents of the earth are more in number then the Serpents of the water, except the Serpents of the Sea: And yet it is thought by the most learned *Rabbins*, that the Serpents of the Sea, are fishes in the likeness of Dragons. Now the places of Serpents abode being thus generally capitulated, we must enter into a farther narration of their habitations, and regions of their native breeding. In the first place, *India* nourisheth many and divers sorts of Serpents, especially in the Kingdom of *Morfilium*, and *Alexander* the Emperor, found among other Beasts, sundry kindes of Serpents in a long Desert, which is on the North-side of *India*. But all the Nations of the World may give place to *Æthiopia* for multitude and variety, for there they gather together on heaps, and lie in compass like round hills, visibly apparent to the eyes of them that behold them a far off. The like is said of all *Africa*, for in *Numidia*, every year there are many men, women and children destroyed by Serpents. The Island *Pharus*, is also (by the testimony of the *Egyptians*) filled with Serpents: The Coasts of *Elyma* are annoyed by Serpents; and the *Caspians* are so annoyed by Serpents which come swimming in the floods, that men cannot sail that ways but in the

Venetus.

Hatthonus.

Pierius.

Winter

Winter time. For from the beginning of the Spring, or æquinoctial, they seem (for their number) to approach ravening, like Troops and Armies. There are certain Islands called *Ophiussa insule*, named after *Ophis* a Serpent, for the multitude bred therein: And there are Serpents in *Candy*, *Ephesus*, and all hot Countries, for this priviledge hath GOD in nature given to the colder Countreys, that they are less annoyed with Serpents, and their Serpents also less nocent and hurtful: and therefore the Serpents of *Europe* are fewer in number, lesser in quantity, and more resistable for their weakness and strength.

Solinus.

Ælianus.

Cor. Gellus.

Pierius.

There were a people in *Campania* called *Ofci*, because of the multitude of Serpents bred among them: Likewise there are great store in *Lombardy* and *Ferrara*. And whereas we have said, that the most nocent and harmful Serpents are bred in the hottest Regions, where they engender more speedily, and also grow into greater proportions, yet is it not to be understood of any special property appertaining to them alone, for I read in *Olaus Magnus* his description of the Northern Regions, of Serpents of as great quantity as in any other place of the world; but yet their poyson is not half so venomous and hurtful, as in the hotter Regions, especially the *African* Serpents. In *Botina* near *Livonia*, there are great store of great Serpents also, so that the Heard-men are at continual war and contention with them for defence of their flock: Likewise in the Mountains of *Helvetia* and *Auvergne*, whereof there are many wonders reported in the World, which I will not stand upon to relate in this place. We read also, that some places have been disinhabited, and dispeopled by Serpents, such were the people of *Scythia*, called *Neuri*, who before the war of *Darius*, were constrained to forsake their soil, because they were annoyed, not only with home-bred Serpents, but also with many other which came from other parts: and so the Countrey remaineth desolate to this present day, the ancient Inhabitants being all removed to dwell among the *Budiani*. The City *Amycle* in *Italy*, (as *M. Varro* writeth) was destroyed also by Serpents. And there be certain places of the world, which have received their denomination from Serpents, besides the *Ophiuse* near *Crete*.

Scaliger.

Olaus Mag.

The Island *Tenos*, was called *Hydrussa* and *Ophiussa*, so were *Crete*, *Ægium*, and the Mountains *Macrocremni*, *Rhodus*, and the long Islands *Ophiades* in the *Arabian* coast, which after it had remained along time desert, was purged and cleared from Serpents by the Kings of *Egypt*. *Nicæus* also calleth *Cyprus*, *Ophiodia*. And in *Pausanias*, we read of a place named *Ophios Kephalè*, the Serpents head. The like might be said of Rivers, as of *Orontes*, called also *Ophis*, and *Ophis* in *Pontus*, which divideth asunder *Colchis*, and the Countrey *Thiamica*. *Ebusus* nourisheth no Serpents, and the Earth thereof hath in it a secret vertue to drive away Serpents, wherefore it is much desired of all men to carry about them, for that it hath been often proved, that never any venomous beast durst adventure upon any man possessed thereof. The like is said of *Ireland*, as our own Chronicles do plentifully declare, and therefore I will spare to enter into any narration thereof.

Eupalides.

Diod. Sicul.

Arrianus.

Suetonius.

Pliny.

To come therefore to the more particular abode of Serpents, especially of such as are known to us, we must leave off the talk and nomination of Kingdoms, and descend to dens, holes, caves, dunghills, Sheep-coats, valleys, rocks, hollow-walls and trees, woods, green pastures, hedges, and such like places, wherein they make their most abode: And now and then in these Northern parts of the world (and yet seldom) they dive down into the bottom or roots of trees, especially such as are green all the Winter time: For they finde in them a greater heat or warmth, then in other, whose leaves fall off and decay in the cold weather, except in the roots of Birch. And by reason of their multitude gathered together at the root of this tree, it falleth out that their breath heateth the same, and so preserveth the leaves from falling off: Wherefore in ancient time, the ignorant multitude, seeing a Birch tree with green leaves in the Winter, did call it our *Ladies Tree*, or a holy tree, attributing that greenness to miracle, not knowing the former reason, or secret in Nature. *Solinus* reporteth of such a like Wood in a part of *Africa*, where in all the Winter time, the leaves of all the trees abide green, the cause is as before recited, for that the Serpents living at the roots of the trees in the earth, do heat them with their breath. Neither ought any man to wonder that they should so friendly live together, especially in the Winter and cold time, seeing that by experience in *England*, we know that for warmth they will creep into bed-straw, and about the legs of men in their sleep; as may appear by this succeeding discourse, of a true history done in *England*, in the house of a worshipful Gentleman, upon a servant of his, whom I could name if it were needful. He had a servant that grew very lame and feeble in his legs, and thinking that he could never be warm in his bed, did multiply his clothes, and covered himself more and more, but all in vain, till at length he was not able to go about, neither could any skill of Physitian or Chirurgion finde out the cause.

It hapned on a day as his Master leaned at his Parlour window, he saw a great Snake to slide along the house side, and to creep into the chamber of this lame man, then lying in his bed (as I remember,) for he lay in a low chamber, directly against the Parlour window aforesaid. The Gentleman desirous to see the issue, and what the Snake would do in the chamber, followed, and looked into the chamber by the window; where he espyed the Snake to slide up into the bed-straw, by some way open in the bottom of the bed, which was of old boards. Straightway his heart rising thereat, he called two or three of his servants, and told them what he had seen, bidding them go take their Rapiers and kill the said Snake. The serving men came first and removed the lame man (as I remember) and then the one of them turned up the bed, and the other two the straw, their

master standing without at the hole, whereinto the said Snake had entered into the chamber. The bed was no sooner turned up, and the Rapier thrust into the straw, but there issued forth five or six great Snakes that were lodged therein: Then the serving-men bestirring themselves, soon dispatched them, and cast them out of doors dead. Afterward, the lame Mans legs recovered, and became as strong as ever they were: whereby did evidently appear, the coldness of these Snakes or Serpents, which came close to his legs every night, did so benum them as he could not go. And thus for heat they pierce into the holes of chimneys, yea into the tops of hills and houses, much more into the bottoms and roots of trees.

Epist. 5.

When they perceive that Winter approacheth, they finde out their resting places, wherein they lie half dead four months together, until the Spring sun again communicating her heat to all Creatures reviveth, and (as it were) raiseth them up from death to life. During which time of cold Winter, as Seneca writeth, *Tuto tractari pestifera Serpens potest, non desunt tunc illi venena, sed torpent*: They may be safely handled, without fear of harm, not because they want poyson at that time, but because they are drouzy, and deadly astonished. But there is a question, whether when they be in this secrecie or drouziness, they awake not to eat, or else their sleep be unto them in stead of food. Olaus Magnus affirmeth of the Northern Serpents, that they eat not at all, but are nourished with sleep. Cardan saith, that they take some little food, as appeareth by those which are carryed up and down in boxes to be seen, and are fed with bran or cheafil. But this may be answered, that Serpents in boxes, are not so cold as those in Woods and Deserts: and therefore seeing cold keepeth them from eating, the external heat of the box-house, or humane body which beareth them about, may be a cause, that inclosed Serpents feed in Winter as well as in Summer, and yet the Serpents which run wilde in the fields eat nothing at all, during the time of their Chias or Ebriaw, that is, their lying hid.

Grevinus that learned man proponeth this question, *Si Serpentes calidi sunt, qui fit ut integros tres aut quatuor menses, id est toto illo tempore quo delitescunt, absque cibo vivunt?* If (saith he) Serpents be hot, how cometh it to pass that they can live three or four moneths without all food, that is, all the time of their lying secret? He maketh (in my opinion) a sufficient answer to this question, which for me shall conclude the cause, saying; Doth it not fall out with Serpents as it doth with some women, who being full of humor, and thick phlegmatick matter, have but a little and weak natural heat, (yet proportionable to the said humor) do live a great time by reason thereof without food or nourishment? And for this cause, all the hoasts of Philosophers do define, that Serpents do also abstain from eating a long season. For Nature hath clothed them with a more solid skin, and lined them with a more thick and substantial flesh, to the intent that their natural heat should not easily vanish away and decay in their bodies, but remain therein permanent, for the feeding and preserving of life. When they sleep, they seem to sleep with open eyes, which is elegantly described by Philes in these Greek verses:

Opōs kat' éude kaí dōkēz palin blepein
Opōis te kai ptox kai thumou pleres león
Epipetatai gar he chlām̄ys ton ommaton

Alou tinos Chitonos hapaloterou.
Phorourontos autois os dioptras, task-óras.

Which may be Englished thus;

How can the Hare, the Serpent, and the Lion bold,
Both sleep, and see together at one time?
Within their eye-lids, a soft skin their sight doth fold,
Shielding their apples, as glass doth weakened eyne.

The food of Serpents that is permitted them by God, is the dust of the earth, as may appear by that first and just sentence, which GOD himself gave upon them, for seducing our first Parents, Adam and Eve, Gen. 3. 14. *Because thou hast done this thing, thou art accursed above all the Beasts of the field, for thou shalt go upon thy belly, and eat dust all the days of thy life.* And again, Esay 65. 25. *Dust shall be meat to the Serpent.* And lest that we should think that this curse hath not taken hold upon the Serpent, we may finde the expresse practise hereof, Mich. 7. 17. where it is said of Gods enemies, that, *They shall lick the dust like the Serpent.* Yet Aristotle affirmeth truly, that Serpents are *Omnivori*, that is, devourers of flesh, fish, herbs, or any other things; howbeit, herein they pass their kinde, or else the curse of God reacheth not to any other kindes then to that alone which deceived our first Parents.

We have shewed already, how they eat and devour men, women and children, Oxen, Sheep, and Goats, but whatsoever they eat, they retain nothing but the moisture of it, and the residue they eject whole and undigested. Whatsoever is offered them, that they take, either a bird, or a small chicken, or an egge, having it, they take hold but of one end, as of the head of a chick, or small end of an egge, and so set it directly before them; then do they gather themselves together in as short a compass as may be, that so their bodies which seem long and small, being extended, may appear great and wide, reduced into a short and compacted frame. And surely hereby they open and make wider their passage and swallow, for then they suddenly goble in the beast or meat before them, without any great ado; and having kept it in their body till it be dryed from all moisture, they cast it out again as they swallowed it up, at another ordinary place. But for birds and chickens, they strive with them till they have gotten off their feathers, or else, if they swallow them whole, they eject the feathers as they do egge-shells.

The

The Serpents of the North do in the Summer time eat the flesh of birds, and herbs, and after the eating of them, they taste of a little water, or milk if they can attain it, or else Wine. For this cause they will suck the udders of Kine, or Goats, or Sheep, as hath been seen in England. Yet is their appetite to drink but small, as is in all other creatures, whose livers are fungous, and soft like sponges; and so are all beasts and creatures which lay egges. Above all kindes of drink they love Wine, and thereof they be drunk, wherefore in Italy they set pottles of Wine to entrap Vipers: for if once they smell the Wine, they enter the vessel gladly and speedily, and the Wine or Milk whereof they drink, is poysoned by them. But in those places of Africa where it never raineth, they eat a kinde of black moist worm, which hath many legs, as is said by Theophrastus. And to conclude, their meat and drink is so small, that it is received for truth, *Natum venenatum perit fame vel siti*, that no venomous beast perisheth by hunger or thirst.

The voyce of Serpents is called *Sibilus*, a hissing, and their voyce differeth from all other Beasts hissing, in the length thereof: for the hissing of a Tortoise is shorter and more abrupt. Of this hissing voyce speaketh Lucan, saying;

Quod strident ululantque ferae, quod sibilat anguis.
In English thus;
Gnashing and howling is the voyce of wilde Beasts,
Long hissing in Snakes and Serpents doth rest.

Among other things notable in a Serpent, this is one, because it casteth off his old age every year, whereof the Grecians tell this fabulous reason. Once Man-kinde strove earnestly with the Gods by supplication for a perpetual youth, that they might never wax old: and obtaining their desire, they laid the same to be carryed upon an As. The silly Beast waxing fore athirst in his travail, at last came unto a water, and thereof endeavoured earnestly to drink; but the keeper of the same water being a Serpent, denyed leave to the As to drink thereof, except he would grant him his carriage, which was Perpetual youth: The poor As ready to perish for thirst, easily condescended thereunto. Whereupon the Serpent changeth her age for youth, and Men their youth for old age; and the As for his punishment, is more tormented with thirst then any other Beast.

But to leave fables, and to come more neer the mark, the Latines call the casting off their skin, *Anguina senectus*, *spolium Serpentis*, & *vernatio*; the Grecians, *Ophios derma*, *Suphar*, *Leberis* & *Geras*; the Arabians, *Geluc* & *Genlut*, & *Falcalbaileb*; the Italians, *Spoglia delle Serpi*: and the Spaniards, *Pelle de la culebra*. About this Snakes skin there is great difference among Authors, some affirming it to be the very skin. Other, that it is nothing but a kinde of hard Leprosie, grown upon them during the Winter time while they lie hid. Some again say, that they cast it twice a year, first in the Spring, and then secondly in the Autumn. But by conference of all together it appeareth, that while the Serpents lie hid, by reason of their drought now in the beginning of the Spring when they come first abroad, they rub off this skin by sliding betwixt two stones, or underneath some root of a tree, or else betwixt some boughs or small trees, beginning at the head, and so continuing to the tail. And within four and twenty hours, that which was raw and bald, beginneth to have another skin upon it; and so as a young childe or beast cometh out of the Secondine doth a Serpent come out of the skin.

As concerning their eye-sight, they naturally do take the juyce of Fennel, which they eat, and by that recover their seeing again: and if it happen that they cannot finde sufficient, they rub their dim eyes thereupon. And if it happen that any of his scales be bruised, or fall senseless, then do they rub themselves upon the thorns of Juniper. And whereas it is thought that they cast their skins again in Autumn, that is to be attributed either to Vipers alone, which cast their skins twice a year, or else to those which are long before they cast, and so it falleth off in Harvest or Autumn the first time, which by reason of the unseasonableness, is thought to be a second coat. And this have I my self often found here in England in the Summer time. The casting off this skin is thus elegantly described by Tibullus:

*Crudeles Divi! Serpens novus exuit annos,
Formae non ullam fata dedere moram.
Anguibus exuitur tenui cum pelle vetustas:
Cur nos angusta conditione sumus?*

Which may thus be Englished;

*O cruel Gods, sub Serpents change their yearly age,
And Fates delay not to refine their form,
Sub Snakes with tender skin excus'd their years enlarge,
Why unto worser hap is Mankind born?*

*Of the inward disposition of Serpents, and of their concord
and discord with other Creatures.*

IT is ever to our woe to be remembred, that which the Lord himself hath left recorded in Genesis, that, *The Serpent was more subtle then all the beasts which God had made.* By which is expressed the natural disposition of this beast above other to subtilty and policy; For I cannot approve the saying of them, who think that the Devil at the beginning might as well have used the tongue of an As or a Dog to have deceived Man, as well as a Serpents; but surely that old Serpent knew very well, (better then all they which speak the contrary) that he could not have so fit a subject in all the World, as the shape, wit, and cunning of a Serpent. And that this came not into the Serpent at that time when the Devil framed his tongue to speak, may appear by the precept of our Saviour Christ, where he saith; *Be wise as Serpents, be innocent as Doves.* For if there had not been naturally, some extraordinary faculty of understanding in this beast, as there is of meekness in a Dove, his wisdom would never have sent us to a Serpent posselt with a Devil, but rather to some other ingenious Beast, whereof there were great store in the World. And therefore I conclude, that subtilty and prudence came not to the Serpent as speaking into *Balaams As*, but rather by nature or creation.

And yet concerning this last sentence of our most blessed Saviour, I cannot but expresse the words of *Tzetzes*, who writeth thus upon it, *Servate capita vestra, quemadmodum Serpens qui insidiis petitis vapulansque ad mortem, omnimodo caput suum abscondit, sic vos à tyrannis & impiis cruciati, caput servate mihi, fidem vestram, & ne Deum negetis usque ad ipsam mortem.* That is, it is as much as if our Saviour Christ should say; Even as when a Serpent is set upon and stroken, by all the means she can she hideth her head, and exposeth all her other parts to blows, reserving that sound; so you, when you are persecuted by Tyrants, preserve your head, that is, your faith, and deny not your God to death. And this thing is affirmed by all Writers, both divine and humane, which have ever touched this point, that above all the parts of the body the Serpent preserveth his. For *Pliny* saith, that if his body be cut off but two fingers length from his head, he will go away as if he had no harm at all, and live longer.

Paulus Fagius writing upon Genesis, saith; It is the opinion of some *Hebrews*, that the Serpent at the beginning did go upright, and was indued with all the affections of men: but this Jewish fable is not worthy to be confuted, because humane affection cannot proceed but from a reasonable soul, which to ascribe to the Serpent, were blasphemous and absurd. Besides, that then the soul might die, and that God had created such a soul, otherwise then by breathing into the body the breath of life.

Serpents have many Epithets given unto them, as illiberal, perfidious, treacherous, venomous, poysonful, stinging, implacable, furious, savage, merciless, devourer, and such like: And indeed the holy Writers, by a Serpent do understand implacable fury: For they are *immitissimum animalium genus*, a most ungentle and barbarous kinde of all creatures, as may appear by the rage of a little Snake, one of the least of Serpents kinde: for when he perceiveth that he is hurt or wounded, he never ceaseth casting out his poyson, until he have done harm, or die for madness.

Two things I finde to be notable in Serpents, the first is proper to their kinde, the second is common to them with Swine, Rats, and Mice. First, they are above measure kinde, not only to their young ones, but also to their Egges. For *Funckius* confidently sweareth, that at *Lestorfium* he saw a Serpents Egge taken and cast into a hot furnace, and when it began to fry in the same, whether by natural instinct, or by smell thereof, the old Serpent came, and would have run into the fire to fetch it out, but that he and other strangers hindered her by killing her. And so likewise, if in a Wood one of them be set on fire, all the Serpents that are within the savour thereof, or within the hearing of the hissing, will instantly gather unto it, even as beasts when they hear one another roar. And so great is their love one toward another, (as *Pliny* and *Textor* write) that it was a vulgar saying, *Serpentium morsus non petit Serpentes*, one Serpent will not bite another. And *Juvenal* writeth;

*Sed jam Serpentum major concordia——
Scilicet, quam hominum inter se.*

That is to say;

*Better do Serpents with Serpents accord,
Then Man with Man, who should be their Lord.*

I cannot conceal a most memorable History as ever was any in the World; of a fight betwixt the Serpents of the Land and the Water. This History is taken out of a Book of *Schiltbergerus*, a *Bavarian*, who knew the same (as he writeth) while he was a captive in *Turky*, his words are these. In the Kingdom called *Gemycke* there is a City called *Sampson*, about which while I was prisoner with *Baiazeta* King of *Turkes*, there pitched or arrived an innumerable company of Land and Water Serpents, compassing the said City a mile about. The Land-serpents came out of the woods of *Trienick*, which are great and many, and the water Serpents came out of the bordering Sea.

These

These were nine days together assembling in that place, and for fear of them there was not any that durst go out of the City, although it was not observed that they hurt any man, or living creature thereabouts. Wherefore the Prince also commanded, that no man should trouble them, or do them any harm, wisely judging, that such an accident came not but by Divine miracle, and that also to signifie some notable event. Upon the tenth day these two valiant Troops joyned battel early in the morning before the Sun-rising, so continuing in fight until the Sun-set, at which time the Prince with some Horse-men, went out of the City to see the battel, and it appeared to him and his associates, that the Water Serpents gave place to the Land Serpents. So the Prince and his company returned into the City again, and the next day went forth again, but found not a Serpent alive, for there were slain above eight thousand: all which he caused presently to be covered with earth in ditches, and afterward declared the whole matter to *Baiazeta* by Letters after he had gotten that City, whereat the great *Turk* rejoiced, for he thereby interpreted happiness to himself.

But I have been too long in this first and proper affection of Serpents, namely, their mutual concord; and this example of the Land and Water Serpents, doth not break the common promised rule, because it is to be understood of Serpents that live in the same element. The second property is to presage Pestilence, rottenness of air, famine, floods, and ruine of those places wherein they are commorant, and have their abiding: so do they know to chuse a good air, and fore-know fertility of fruits, earth-quakes and great tempests. When *Helice* was destroyed, five days before, the Serpents, Snakes, Rats, Mice, and Weasels, departed all out thereof, being wiser then Men, that misdeeming no harm, although they saw and wondered at these removals, yet stood it out to their own utter ruine, overthrow and destruction.

Helianus.

Of the friendship and enmity which Serpents keep with other Creatures.

Ever since the Devil entered into the Serpent, it became hateful to all, or the most part of the beasts of the field, so that it may as truly be verified of the Serpent as it was of *Esau*, that the hands of all Men and Beasts are against them, (except very few) for they are strangers to all, and finde very few or no friends. Yet it is reported, that the Serpent and the Fox will live peaceably together in one cave or lodging. There is a story, not unpleasant, of a Man that found a Serpent enclosed betwixt two stones, and at the intreaty of the Serpent, he loosed him out of danger, and did him no harm. The Serpent being released and free from death, in stead of other recompence for so good a turn, told the Man that he had been therein a long time inclosed, and was very hungry, and therefore was forced (against his will) to make the best of his fortune, and therefore must needs eat the Man, and bad him prepare himself for death. The Man astonished at this motion, replied to the Serpent, that he hoped he would not deal so with him, having delivered him from death, now to put his deliverer to death: and said moreover, that he would not be the Judge of his own case, but refer the same to the next they found: and the Serpent also yeilded to that judgement, being assured that no creature would quit the Man, lest he should cast his own life into peril. Forth then they went and met with an Ass, to whom the Man told the difference betwixt him and the Serpent, how kindly he saved the Serpents life, and how unkindly he again would take away his life. And then the Serpent bade the Ass consider what judgement he gave, and for whom he spake. The Ass adjudged it lawful for the Serpent to kill the Man. Lo now, said the Serpent, make you ready, for the matter is judged against you, and withall, began to make force at him with mouth and sting. But the Man said, that he would not take this Asses decree for reasonable, and therefore prayed the Serpent to tarry yet a little longer, and try once more the next Beast they met withall; and the Serpent thinking himself sure of the booty, yeilded thereunto. Then forth they passed again, and shortly after met with a Fox, to whom the Man related his case, and the benefit he had done to the Serpent: The Serpent again confessed he released him, but withall, denied his case to be as the Man had said, so desperate, but only he entrapped himself the better to compass a booty. The Fox having heard them both, (desirous to end the matter for the Mans benefit) would needs go with them both to the place where the Serpent was inclosed, and so all parties consented. And when the Fox came thither, he bade the Serpent go into the same place again, that so he might the better judge of the whole matter. The Serpent went in again betwixt the stones, and was so inclosed, as he was before, for he could not stir neither backward nor forward. Then the Fox asked the Man if this were the Serpents case, from which he had delivered him? The Man answered yea, in all points. Then he bade the Serpent come out again, as he said he could, without the help of the Man. But the Serpent called the Man to help him again. Nay, said the Fox, I found you two at variance, because of your discharge from this place, and seeing now you are as you were before, and the Man as he was before your enlargement, my sentence is, that when you come forth of that place you are in, then shall you eat the Man: and if he will let you forth again, I will never pity him. By this fable is shewed, that Foxes love not Serpents so well as they love Men, and yet they never love Men, but they are afraid, suspicious, and willing to forsake their familiarity.

Ponzettus.

Some say there is a kinde of love betwixt Serpents and Cats, whereof I finde this story in *Ponzettus*. There were certain Monks, who all of them fell sick upon a sudden, and the Physitians could not tell how or whence this sickness came, except from some secret poyson. At last, one of the servants of the Abbey, saw the Cat which was daily fed at the Monks table, to play with a Serpent; and thereby it was conjectured, that the Serpent having in his sport lost or left some poyson upon the Cats skin, the Monks by stroking of the Cat were infected therewith. And the cause why the Cat was not harmed thereby, was for that she received the poyson from the sport, and not from the anger of the Serpent.

And this thing surely is not so marvellous, seeing that little Mice and Rats do also play with Serpents, and herein Politicians play the Serpents, who hold correspondence and peace both with the Cat and the Mouse: that is, with two sworn and natural enemies together. The like peace and league they are also said to keep with Eeles, as may more plainly appear by this following History, of a certain Monk called *Radolphus a Will Monachus Capellensis*.

There was (as this Monk affirmeth) one of his fellow Monks, which did often tell him, that being a little boy, and using to sport himself by the water side, he hapned to catch an Eele, which he attempted (for his own pleasure) to carry to another water, and by the way as he went, he passed through a Wood, at which time when he was within the Wood, the Eele began to hiss and cry mainly, at the hearing whereof, there gathered together very many Serpents round about him, insomuch that he was afraid, and set down his basket fast pinned and ran away; afterward he came again and sought for his basket, but he found not the Eele therein, wherefore it was supposed, that the Serpents delivered the same Eele out of the basket, by some sleight of nature: the only doubt is, whether Eeles do hiss or not, seeing they are fishes, and *Omnes pisces muti*, all fishes are mute or dumb. But for answer to this objection, it is most certain that Eeles have a voyce, as all they know which use fishing in the night; for I my self, have not only heard such a voyce in the night time in Rivers, and other waters where Eeles abounded, but have had it confirmed by divers other, of greater practise and experience in fishing. The reason whereof, may be their manner of generation; for they engender not by spawn as other fishes, but of the slime of the earth or water, and differ not from Serpents in their external form, except in their colour, and therefore may be said to partake with Fishes and Serpents in both their natures: that is, having a voyce like a Serpent, and a substance like a Fish. Such is their confederacy with living Creatures, and with no more that I ever read or heard of.

But moreover, it is said that they love some Plants or Herbs above measure, as the Fennel and Ivy; and for this later, both *Pliny* and *Textor* do not without great cause wonder, that ever there was any honour ascribed or given to the Ivy, seeing that Serpents (the most unreconcilable enemies of man-kinde) delight so much therein. But herein the Devil blinded their reason, as he did the modest women, that worshipped *Priapus*; or the *Tartars*, which at this day worship the Devil, to the end that he should do them no harm. Thus much I can only say of the friends and lovers of Serpents, by the multitude whereof we may conjecture, how among other parts of the curse of God upon them, they are held accursed both by man and Beast.

Now then it followeth, that we enter into a more particular description, or rather a relation of that hatred which is between them and other creatures, and first I will begin with their arch enemy, I mean Man-kinde. For when GOD at the beginning did pronounce his sentence against the Serpent, for deceiving our first Parents, among other things he said, *I will put enmity betwixt thee and the Woman, betwixt thy seed and the Womans seed*. Whereby he did signifie that perpetual war, and unappeasable discord, which should be for ever (by his own appointment) betwixt them. And the truth hereof is to be seen at this day, for by a kinde of secret instinct, and natural motion, a man abhorreth the sight of a Serpent, and a Serpent the sight of a man. And as by the tongue of the Serpent, was wrought mans confusion, so by the spittle of a mans tongue, is wrought a Serpents astonishment. For indeed such is the Ordinance of God, that Men and Serpents should ever annoy and vex each other. And this *Erasmus* saith shall continue, as long as *meminerimus illius inauspicati pomi*, we shall remember that unfortunate Apple.

Isidorus saith, that Serpents are afraid of a man naked, but will leap upon, and devour a man clothed. Which thing is also affirmed by *Olavus Magnus*, for he saith, that when he was a boy he often tried it, that when he was naked, he found little or no resistance in Serpents, and did safely without all danger combat with them hand to hand. I my self also in my younger time, when I was about ten or twelve years old, used many times in the Spring and Summer time, to wash my self with other my Colleagues, in certain fish-ponds, wherein I have seen and met with divers Water-snakes without all harm; and I did never in my life, hear of any harm they did to any of my fellows being naked, neither did I ever see any of them run away so fast on the land, as they did fly from us in the water; and yet are not the Water-snakes less hurtful then the Land-adders. And this was well known to many.

At Seaven-oak
in Kent, which
now belongs
to Sir Ralph
Bosserville,
Knight, &c.

Ælianus.
Pliny.

About the beginning or Fountain Springs of *Euphrates*, it is said, that there are certain Serpents which know strangers from the people of the Countrey, wherefore they do no harm to the natural born Country-men, but with strangers, and men of other Countreys they fight with might and main. And along the banks of *Euphrates* in *Syria*, they also do the like; saving that if they chance to be trode upon by any of the people of those parts, they bite (like as a Dog doth) without any great harm; but if any other, forainer or stranger annoy them, they also repay him with malice, for

for they bite him, and intolerably vex him; wherefore the Countrey-men nourish them, and do them no harm. Such as these are also found in *Tirinthus*, but they are very little ones, and are thought to be engendered of the earth.

The first manifestation in nature, of Mans discord with Serpents, is their venom; for as in a Serpent there is a venom which poysoneth a Man: so in a Man, there is the venom of his spittle which poysoneth a Serpent. For if the fasting spittle of a Man fall into the jaws of a Serpent, he certainly dyeth thereof. And of this, thus writeth the Poet *Lucretius*;

*Est utique ut Serpens, hominis quæ tacta salivæ
Disperit, ac sese mandendo conficit ipsa.*

In English thus;

*As Serpent dyeth when spittle of Man he tasteth,
Gnashing his teeth to eat himself he wasteth.*

The cause of this, the Philosophers (which knew nothing of *Adams* fall, or the forbidden Apple) *Pierius*, do assign to be in the contrariety betwixt the living souls or spirits of these Creatures: for the Serpents life is cold and dry, and the Humane life hot and moist, wherefore either of both abhorreth one the other; and the Serpent leapeth as far from a Mans spittle, as it would do out of a vessel of scalding water.

Agatharides writeth, that there was a King in *Africk* called *Phyllus*, whose Sepulchre was preserved in the greater *Syries*. From this King there were certain people named *Phyllians*, in whose bodies there was a certain inbred and natural power to kill, or at the least to astonish Serpents, Spiders, Toads, and such like, and lay them for dead, even by the favour or smell of them. And the manner of these men, to try the chastity of their Wives, was to take their children newly born, and to cast them unto dreadful Serpents: for if they were of the right line, and lawfully begotten, then did the Serpents die before them, but if they were adulterous, and the children of strangers, the Serpents would eat and devour them. *Pliny* affirmeth, that even in his days there were some of those people alive among the *Nasamons*, who destroyed many of them, and did possess their places; yet some running from death, escaped. Generally, such people were called *Marsi* and *Psilli*, for the *Marsi* were a people of *Italy*, descended of *Circes* (as is said) in whom there was a vertue to cure all the stinging of Serpents, by touching the wounded places. Such saith *Crates Pergamenus*, are in *Hellepont*, about the River *Parus*. And some are of opinion, that at the beginning they were *Ophiogenes*, born or bred of Serpents; or that some great Nobleman, father of that Countrey, was of a Serpent made a man. And *Varro* saith, that in his time there were some few men alive, in whose spittle was found that vertue, to resist and cure the poyson of venomous Beasts.

But having named *Ophiogenes*, or *Anguigena*, that is, Men bred of Serpents or Snakes, I see no cause why it should be judged, that those which cure Serpents poyson, should be so misjudged; for to cure poyson, is not the work of poyson, but of an Antidote, or contrary power to poyson: and therefore curers and resisters of poyson, are without all learning called *Ophiogenes*, that is, Serpents brood: but rather, that term belongeth more justly to those people, whose nature is sociable with Serpents, and Serpents agree with them, as they would do with their own kinde. Such an one was *Exagon* the Embassadour of *Rome*, who at the commandement of the Consuls, (for their experience) was cast naked into a vessel or tun of Snakes, who did him no harm, but licked him with their tongues, and so with great miracle, he was let forth again untouched; and yet there is no more reason to say, that this man was born of the lineage of Serpents, because those Men-enemies did not hurt him, then it was to say, that *Daniel* was born of Lions, because that the Lions did not harm him. Or that *Romulus* and *Remus* were born of the kindred of Wolves, because a she Wolf did nourish them. We do read of many people in the World, which were surnamed of Serpents, all which may as well be deemed to be descended of such creatures, because of their name, as well as the other, who were by GOD for their innocency preserved from death.

Ebusus was called *Colubraxia*, and the people thereof *Ophiussæ*, and in *Arabia* we read of the *Ophiades*, both which are derived from Serpents, called in Greek, *Ophēis*. *Eustathius* also relateth a story of a man called *Ophis*. I omit to speak of the *Ophite* and others; yet thus much I must needs say, that commonly such names have been given to Serpents, for some cause or accident, either faignedly or truly derived from Serpents. So we read of *Ophion*, a companion of *Cadmus*, and a builder of *Thebes*, who was said to be made by *Pallas* of a Dragons tooth. Likewise the *Spartanes* were called *Ophiodeiros* *Cælius Rhod.* by *Pythius*, because in a famine they were constrained to eat Serpents.

S. Augustine maketh mention of certain blasphemous Heretiques, who were called *Ophite*, because they worshipped a Serpent, and said that the Serpent which deceived our first Parents *Adam* and *Eve*, was Christ. Wherefore they kept a Serpent in a Cave, whom they did nourish and worship, which at the charm of the Priest would come out of his Cave, and lick the Oblations which they set upon his Den; rowling and folding himself round about them, and then would go in again: then did these abominable Hereticks break these oblations into the Eucharist, and receive them as sanctified by the Serpent. And such also is the story of *Cælius Rhod.* where he tearmeth the great Devil *Ophiomachus*, whom both holy Scripture, and ancient Heathen say, that he fell out of Heaven. But all these things are but by the way, upon occasion of that unnatural conceit of those men called *Ophiogenes*: that is, descended or begotten by Serpents. Therefore I will return where I left,

left, namely, to the hatred of Men to Serpents, and of Serpents to Men again: In testimony whereof, there have been mutual slaughters, namely Men which have killed monstrous Serpents, and Serpents which have killed men again.

Diod. Sicul.

Hercules being but an Infant, (as Poets feign) killed those two Serpents which *Juno* sent to his cradle to destroy him; for *Juno* is said to be much offended at his birth, because he was begotten by *Jupiter* upon *Alcmena*; and therefore there was reserved the Image of *Hercules* at *Athens*, strangling a Serpent. But *Pierius* maketh of this fiction a good moral or Hieroglyphick, when he saith, that by *Hercules* strangling of the Serpents in his cradle, is understood, how those men which are born for any great enterprises, should kill their pleasures while they be young. I need not to stand long upon this point, for it is evident, that to this day there are many *Hyades*, both men and women, which are not afraid to kill the Serpents brood. But such as have perished by Serpents; I mean men of any note, are also expressed, whereof *Ovid* writeth of *Ælacos*, the son *Priamus* and *Alixothoes*, who following the Nymph *Hesperia*, (with whom he was in love) was suddenly killed by a Snake biting his foot. So were *Apesantus*, *Munitus*, *Eurydice*, *Laocoon*, *Opheltis* the son of *Lycurgus* King of *Nemea*, *Orestes*, *Idmon* and *Mopsus*, slain by Serpents: whereof *Opheltis*, by the negligence of his Nurse *Hyppisphile*, leaving him ungarded in his cradle.

It is recorded by *Ælianus* and *Pliny*, that when a Serpent hath killed a Man, he can never more cover himself in the earth, but in punishment of so vile an offence, wandereth to and fro, subject to infinite miseries and calamities, being not acknowledged by his female if he be a male, nor yet by the male if it be a female, and is forsaken of all his crew or society. The earth it self not daigning to entertain a man-murderer into her bowels, but constraining him to live Winter and Summer abroad upon the open earth. And thus hath the Divine Providence dispensed his justice, that he suffereth not murder of men to be unpunished among the greatest haters and enemies of men.

Ælianus.

Herodotus.

Æneas Syl.

What monsters therefore are they which have Serpents in their delights, and admire that in them which should be hated of all men. And how base were those minded *Grecians*, which worshipped the Serpent for a God? Or the *Athenians*, which kept a Serpent in their Temple, for an opinion that the same did conserve their Tower or Castle from all enmity. *Jupiter* was also worshipped in many places in the shape of a Serpent. And the ancient *Borussians* worshipped a natural Serpent of the earth. It is strange to consider the error of the King of *Calebut*, who doth as severely punish the slaughter of a Serpent, as he doth the slaughter of a Man; and not only restraineth his subjects from harming them, but also buildeth for them little coats, wherein they safely lodge in the Winter time. And the cause of this error, is their conceit, that they think Serpents are Divine powers dropped out of Heaven, which they prove, because when they sting fiercely, they quickly kill, and dispatch their enemy suddenly. Wherefore they think that no creature can kill so speedily, except an Angel of God. Some of the Heathen had their *Ophiocephale* Beasts with Serpents heads, which they did worship for a God. And the Poet *Virgil* hath an excellent description of *Æneas* his sacrificing to the ghost of his Father *Anchises*.

Gellius.

Adytis tum lubricus anguis ab imis

Septem ingens gyros septena volumina traxit

Amplexus placide tumulum, lapsusque per aras

Cerulea cui terga note, maculosus & auro

Squammam incendebat fulgor: ceu nubibus arcus

Mille trahit varios adverso sole colores,

Obstupuit visu Æneas, ille agmine longo

Tandem inter pateras, & levia pocula Serpens

Libavitque dapas, rursusque innoxius imo

Succesit tumulo, & depasta altaria liquit.

Which may be thus Englished;

Then from the hollow boles, a sliding Snake appeared,

Which seven ways did winde and turn, and dead-mans tomb embrace,

Gliding along the Altar from, and back, with colour cleered,

By Sun-shine-light, like spots of gold each varied to the face

A thousand hiew; whereat Æneas marvelled: but yet at last,

This Snake the holy dishes, and smoothest cups of choice

Did hast to touch, like as it would the sacreds tast,

And so sunk down from Altar clean, without both harm or noise.

Lampridius.

And to make an end of this Section, of the Antipathy betwixt Men and Serpents, that whosoever is of the Womans seed, may profess himself an enemy to the Serpent, let him but consider how that hateful monster *Heliogabalus*, having by the help of the *Marsick* Priests gathered together many Serpents, one day in the morning, when the people were gathered together to see some rare and unheard of spectacle, suddenly he let loose the Serpents, and hurt many of the people. *Tzetzes* telleth another story, of a devise or warlike stratagem, how Serpents by slings or trunks, were sent abroad among the Camps of their enemies. So doth *Galen*, of Serpents included in an earthen pot, and cast like darts among the Tents of the *Romans*. And so did *Hannibal* shew to *Antiochus*, how in a battel by Sea, he might shoot Serpents among the Mariners to his Enemies, and hinder their rowing: for when he did follow the same devise at *Prusie*, he went away Victor and Conqueror. And thus I will conclude this part, with the Emblem of *Alciatus*, which he wrote unto the Duke of *Millian* upon his Arms, being an Infant proceeding out of a Snakes jaws.

Pierius.

Exiliens

*Exiliens Infans sinuosi è faucibus anguis,
Est Gentilitiis nobile stemma tuum.
Talia Pelleum gessisse numismata regem
Vidimus, hisque juum concelebrasse genus,*

In English thus;

Out of the mouth of winding Snake,
Great Duke, this is thy Crest,
A leaping Infant making scape
From jaws, a wofull rest:
The like Coat did Pelleus King
Upon his silver presse,
As we have seen, the same to sing
Of Kindreds worthinesse.

*Dum se Ammone satum, matrem anguis imagine lusa,
Divini & sobolem numinis esse docet.
Ore exit, tradunt sic quosdam enituer angues,
An quia sic Pallas de capite orta Jovis?*

For whiles of Jove he glorieth,
Descended of his race,
He feigns his mother like a Snake,
Born of Divinest grace.
But why proceeding from the mouth?
Some Serpents so are bred,
Or else that Pallas issueth
Out of great Jove his head.

And the like by the same Author is expressed upon this Theam, *That the wisdom of man is foolishnesse with GOD*; therefore upon the unnaturall conjunction of two mortall enemies, framed into one body, he thus writeth elegantly;

*Quid dicam, quodnam hoc compellem nomine Monstrum?
Biforme quod non est homo, nec est draco.
Sed sine vir pedibus, summis sine partibus anguis,
Vir angui-pes dici, & homiceps anguis potest:
Anguem pedit homo, hominem rucavit & anguis,*

That is to say;

What shall I call? or how this Monster rightly name?
Biformed, which nor man nor Dragon, in all the same.
But man unlegged, and Snake unheaded: doubtfull parts,
Man-snake, Snake-man, exceeding humane arts.
Mans tail breeds Snake, and Snake a man up-casterth,
One end is not of man, nor other of wilde beast tasteth.
Such one was Cecrops, learned Athens King,
And Giants su. b did earthly mother bring.
Mishapen then, an earthly minde expressest,
Devoid of grace for worlds good only wishest.

*Nec finis hominis est initium, nec est fera.
Sic olim Cecrops doctis regnavit Athenis,
Sic & Gigantes terra mater protulit.
Hæc vaftrum species, sed & religione carentem
Terrena tantum quique curet induat.*

Thus then I will leave to talk of our most just (and by GOD ordained) hostility, betwixt men and Serpents, and descend to a particular discovery, how Serpents and other beasts are for mans sake at the like enmity. And first of all I will begin with the Fowls, and so descend to Four-footed beasts, and Insects, or imperfect creatures.

Eagles are alway in warre with Serpents, from an high they espy them, and suddainly flie down upon them, with a great noyse or cry, tearing out their bowels, and casting aside their venom or poyson. And some (as *Albertus*) say, that they will in particular deal with Vipers, Tigers, and Dragons, when she seeth them hunting those small beasts or birds which are her prey. This fight is thus described by *Virgil*, how the Eagle griping the Serpent in her talons, flyeth into the air.

*Utique volans alte raptum cum fulva draconem
Fert Aquila, implicuitque pedes, atque unguibus hæsit.
Saucius & Serpens, sinuosa volumina versat,*

In English thus;

As Eagle flyeth on high, and in her clawes a Dragon beareth,
Folded within her feet, wounded, dying to her talons cleaveth.
The Serpent fierce now windeth round, and with her head erected,
Hissing out threath, rough scales upstteth that were dejected,
To fright her so: but all in vain, for she with beak doth strive,
And beat the air with wings of force, till Dragon cease to live.

*Arrectis horret squammis, & sibilat ore,
Ardus insurgens: illa hand minus urget adunco
Lucantem rostro, simul æthera verberat alis.*

There is in the seventh book of *Ælianus* History of living Cretures, a notable and elegant story of an Eagle which was almost overcome by a Serpent, and yet preserved and made Conquerour by a man. There was (saith he) sixteen men which were threshing of corn in the heat of the Sun, by reason whereof they became very thirsty, then they agreed to send one of their company to a Fountain not far off, to fetch some water for them all to drink; and so the Messenger coming to the Fountain, found an Eagle almost killed by a Serpent: for whiles from an high she beheld the Serpent, being more greedy of the prey for to feed her young, then wary to avoid danger, fell down upon her booty, which was too strong for her; for the Serpent received her adversary with fell force, power, and preparation to stifle her, and so indeed she had accomplished, had not by chance this thresher come unto them: for the Serpent had so ensnared and wrapped up the Eagle

Eagle with her long body, that she was nearer *ad pereundum quam ad perdendum*, that is, to be killed, then to kill, or get a prey. The Man beholding the fight, with his sickle cut asunder the Serpent, and so delivered the Eagle: but how the Eagle requited the Man, shall be shewed in the history of the Eagle.

In the Mountains of *Morsilium*, there are great store of great Serpents, which are very dangerous, but there are also great white Eagles, which do eat and destroy them. Some say that the Vulture doth destroy Serpents, but herein I cannot be satisfied, for all Eagles do not hunt after this game, but only the lesser sort of them. Eagles when they build their nest to breed in, they seek out a certain stone called *Aetites*, the vertue whereof keepeth Serpents from their young, and also make their eggs fruitful, so as it is a very rare thing for Eagles to have a rotten egge.

P. Venetus.
Aristotle.
Philostratus.

Solinus.

All kindes of great Hawks, Bussards and Kites, are also enemies to Serpents, Snakes, and Adders, and the Kites will eat them, if they finde them alive or dead, as I my self have often seen by experience. The Storks also do hunt after Serpents, wherefore in *Theffaly*, it is as unlawful to kill a Stork as to kill a Man; for they have many devises to catch Serpents, and all venomous Beasts, and thereof to eat without harming themselves: and not only eat themselves, but give thereof to their young ones, as *Juvenal* witnesseth:

—Serpente ciconia pullos

Nutrit, & inventaper devia rura lacerta.

In English thus;

The Stork her young ones, according to kinde,
In Serpents and Lizzards, do their meat finde.

Sometimetime they fight together irefully, and the Serpent stranglenth the Stork by twynning about her neck; again, the Stork killeth the Serpent by pecking upon her head, and so sometimes they are both found dead together. As the Eagle hath the stone *Aetites*, so hath the Stork *Lych-nites*, to defend herself and her young ones from the rage of Serpents. There is (as *Oppianus* writeth in his *Ixeuticus*) this vulgar story in *Italy*. There was a certain Serpent, which came two years together to the nests of divers Storks, and destroyed their young ones, neither could all the Storks make sufficient force against her with all their might to save their brood. The third year the Serpent came again to attempt the like slaughter; but there among the Storks she found a certain strange Bird never seen before, being shorter then the Storks, and yet had a great long sharp bill, as sharp as the point of any sword. This Bird (as it seemeth) was brought thither by the Storks to guard their young ones, when the Parents were gone abroad to forrage for them. Then, as soon as the young ones were hatcht, out cometh the Serpent from his hole, and beginneth to assail the nests of the Storks, but the guardian Bird, (according to the trust committed to her) resisted the Serpent, and pecked at her mortally with her sharp beak. The Serpent to end his adversary, nimble advanced himself upright, and endeavoured to reach the Bird, but the wary Bird soared so high above his reach, that the langrel Serpent could not catch him, and so they continued in fight, till at last the Bird killed the Serpent, after that the Serpent had once only fastened his venomous teeth upon the Bird, which afterward so wrought upon this Bird, that all her feathers did flie off from her back.

Philes.
Marcedi.
Simocratus.
Diodorus.
Zoroaster.

But of all other Fowls enemies to Serpents, there is none greater or more deadly, then the Bird called *Ibis*, which the *Egyptians* do wonderfully honour; for when swarms of Serpents come into *Egypt*, out of the *Arabian* gulfs and fens, these Birds meet and destroy them: and there is such an admirable fear in Serpents of these Birds, that they do not only tremble, and fall senseless at their sight, but also at the sight of their feathers: they do harm to no other living thing, except Locusts and Caterpillers, wherefore they are worthily nourished, and called *Inimice & populates Serpentum*, enemies and destroyers of Serpents.

All kinde of Pullen, as Cocks and Hens, are likewise enemies to the brood of Serpents. And a good couragious Cock, (as *Columella* saith) is able to kill and resist a Serpent. For, (as *Rondolitus* saith) he hath found in the crop or craw of Pullen, young Serpents devoured by them. But from whence *Albertus* had his relation, that a Hen cannot be hurt that day by a Serpent wherein she layeth an Egge, I cannot tell, and therefore leave it to the Reader to believe or refuse.

Crescentius.

And it is also said, that the flesh of Hens applyed to the bitings of Serpents, doth cure them, or else cause a Hen to sit upon the wounded place; but if the Beast which is wounded, be a Cow with Calf, or any such other femal with young, howsoever it fareth with the old one, surely the young ones shall perish.

Textor.

There is also another Bird, which for his combating with Serpents, is termed *Ophiomachus*, a fighter with Serpents. Although *Gesner* be of opinion, that *Ophiomachus* never signifieth a Bird. Of this Bird the *Septuaginta* make mention, *Levit. 11.* but many of the better learned, do interpret it for a Lizard, or a Locust, or an *Ichneumon*. The Peacock also is a terrour to Serpents, so as they will not abide within the hearing of his voyce, for it is perpetual with all venomous beasts. And the Vulture, as we said before, is a terrour unto them, insomuch as one of their feathers burned will by the favour of the smoak drive away the Serpent. And to conclude, the Swallows also are at variance with the Serpents brood, for the Snake will creep up to the Swallows nest, and therein suddenly surprize the young, for the old ones will fly away chattering, and chirping in mournful sort, not being

being able to hinder or resist their chick-devouring foes. But at the last, when they see all their young ones dispatched, as if they could not endure to live for sorrow, or else thinking it possible to fly into the snakes belly to fetch out again their devoured young ones, they fall down upon their enemies jaws, doing what they can to make them devour and swallow them up also. And thus much for the hatred betwixt fowls and Serpents: Wherein, although they kill the Serpent, either in their own defence, or else for raven and prey, yet may we admire the prudence of the most mighty Creator, who hath so disposed of his power, that he causeth the Fowls of Heaven to revenge Mans quarrel upon the Serpents of the earth, by whose subtilty Man was plucked from Heaven, and they made subject to corruption.

Oppianus.

In the next place, God hath also framed an opposition betwixt Serpents, and the Beasts of the earth and water, which live with Serpents in the same Element, that so they might be both annoyed at home and abroad. I will therefore begin with the Dog, who is a notable enemy to the Serpents, as I my self have seen many in *England*, for he will earnestly seek them out with nose and foot, both in waters, dunghils, and hedges, and when he hath found any one, he will suddenly snatch him into his mouth, biting him about the middle, and so holding it in equal poysse, will sling and shake it about his ears very fast and violently, till he perceive it can stir no more, and then suddenly again letteth it fall out of his mouth to the earth; but if it begin to stir, he snatcheth it up again, and shaketh it about his ears as before, and so never giveth over till it appear dead: but they seldom kill them, only they astonish them, and so may a young childe knock out their brains. Howbeit, when they fight in defence of their Masters, then they kill them, by biting them in pieces. And yet is it more safe for them, to astonish them, and leave them for dead, by shaking them about their ears, then by biting them in pieces, for that commonly then, while they share them asunder, they are stung or bitten by the Serpent. And this I have seen often in mine own experience. But one of the greatest enemies of Serpents are Harts, a timorous beast of all other, and yet greedy to combat with the Serpent, wherefore I will briefly describe this their war and hatred, out of *Solinus*, *Ælianus*, *Plutarch*, and *Oppianus*.

The Hart will greedily follow out the path of the Serpent, and finding it lodged in his den or hole, by the vertue of his nose draweth it out of the Earth, and thereof some have derived *Elaphos*, a Hart, of *Elainein tous opheis*, that is, driving away of Serpents. And herein I think it not reason to follow the opinion of *Ælianus*, who intreating of Harts drawing Serpents out of the earth, saith, that the Serpent is inticed and allured out of her hole, by the breath of the Hart, as by a Philtre or Cup of love; for seeing that there is so great an hostility, and antipathy in nature, betwixt their whole disposition, how can it come from any secret sympathy, that the Serpent (which is the subtillest of all beasts) should be bewitched with the love of his enemies breath? But if it be said that Serpents, which are by nature very cold, can easily be drawn forth by a warmer breath, as it were by the sweet beams of the hot Sun; how then falleth it not out, that when any other Beast breatheth upon their lodging, and into their dens, they are not removed? But let it be granted, that the warmth of the Harts breath maketh him forsake his den, yet it cannot be ascribed to any secret in nature, as if there were a fire of love in the Harts throat or bones, but only from the natural concomitant quality of heat, with expiration, respiration, and inspiration: and therefore I cannot but conclude, that there is not any possibility or probability in nature, that where the spirits, which take and make the breath, are at such variance, there the breath proceeding from the one adversary, should so enchant and beguile the other.

But the true cause of this extraction of Serpents out of their lodgings, is, as I conjecture, not her warm breath that allureth, nor yet scorcheth and burneth her adversary; but that when the Hart hath found the den of the Serpent, by her violent attraction of the air out from the Serpent, she enforceth it for the safeguard of life to follow it out of the den. As when a vessel is broched, or vented, the Wine followeth the flying air; or as a Cupping-glass draweth blood out of a scarified place of the body: and so is a Serpent against her will, drawn to follow the breath of her destroyer. *Oribasius* and *Gunterius* do subscribe unto this opinion, and take it for most consonant to reason and truth, and therefore I will not follow it any further: for by the self same manner do the Sea-Rams draw the Sea-calves out of their lodgings among the Rocks under the earth, for when they have found the Calf, they keep it from air, and prevent their refrigeration.

When the Serpent seeth himself so drawn forth by his adversary, he being above measure incensed to rage, flyeth away, and maketh his poyson more noisome, violent and powerful, for which cause, there was wont to be a Proverbial caveat or warning: *Cave ne incideris in Serpentem, quum extracta à latebris anhelitu cervi effugerit, tum enim propter iracundiam vehementius ei venenum est.* Take heed lest you meet with a Serpent flying away from the Hart, after she is drawn out of her den by her breath, for then, by reason of her rage, her poyson is more forcible. But I will proceed to the more strange and wonderful combats betwixt Serpents and Harts. For when the Serpent perceiveth the unavoidable danger, and that she must needs fight for her life, she hisseth strongly, lifting up her head from the earth, even to the throat of the Hart, and thereat catcheth and gnaseth with her teeth; but on the other side, the valiant Hart, (if such a word may be given to a fearful Beast) as it were deriding his adversaries weak endeavours to harm, suffereth the Serpent to winde about his breast and belly, and to embrace both neck and legs with his long and weak body, that so he may have the more power upon it, for he teareth it into an hundred pieces.

But

But the most strange combats are betwixt the Harts and Serpents of *Lybia*, where hatred hath his deepest footing, for there the Serpents watch the Hart when he lyeth down to sleep upon the ground, and being a multitude of them set upon him all together, fastning their poysonfull teeth in every part of his skin, some on his neck and breasts, some on his sides and back, some on his legs, and some hanging upon his privy parts, biting him with mortall rage, to end and overthrow him. The poor Hart being thus oppressed with multitude, and assailed without any warning to the battle, in vain attempteth to run away, for their cold earthy bodies, winding tayls, and pinching teeth, hinder his wonted pace, and overcharge his strength: whereat being forced to quit himself in the best manner he can, enraged, with teeth, feet, and horns assaileth his enemies, whose spears and arrowes of teeth and stings, stick so fast in his body; tearing them in pieces which he can touch with his teeth, beating others asunder where he can reach them with his horns, and trampling under his feet those which cleave to his lower parts: and yet such is the rage and dauntlesse courage, or rather hatred of these enemies, not willing to die alone, (but like Champions to end their lives upon and with their adversary) do still hold fast, and even when their bodies are beaten in pieces, their heads stick close, and hang sharp upon the Harts skin, as though they would grow with him, and never fall off till he should also fall down dead. But the Hart feeling some ease, and having by the slaughter of their bodies delivered his feet from thralldome, by a divine naturall instinct, flyeth and runneth fast to some adjoyning fountain, where he seeketh for Sea-crabs, whereof he maketh a medicine, that shaketh off their heads which cleave so fast unto him, and also cureth all their wounds and poyson. This valiant courage is in Harts against Serpents, never yeelding, tiring, or giving over, and yet otherwise, are afraid of Hares and Conies by nature.

But what is the cause of this hostility betwixt Harts and Serpents? Is it for meat, or for medicine and cure? Surely they would abhorre to eat them, if it were not for health and naturall medicine, for sometimes the pores of their body are dulled and shut up, sometimes the worms of their belly do ascend up into the roof of their mouths while they chew the cud, and there cleave fast; for remedy whereof, the Hart thus afflicted, runneth about to seek for Serpents, for the eating of a Serpent cureth this malady. *Pliny* saith, that when the Hart waxeth old, and perceiveth that his strength decayeth, hair changeth, and his body begins to be feeble, then for the renewing of his strength, he first devoureth a Serpent, and afterward runneth to some fountain of water, whereof when he hath drunk, he findeth a sensible alteration, both in horn, hair, and whole body. And this thing is also delivered by the Writer of the *Glosse* upon the 42. Psalm, which beginneth, *Like as the Hart desireth the water springs, so longeth my soul after my GOD.* But for the ending of this question, we must consider and remember, that there are two kindes of Harts, one eateth Serpents, and feeling the poyson to work, straight-way by drinking casteth up the poyson again, or else cureth himself by covering all his body over in water. The other kinde only by nature killeth a Serpent, but after victory forbeareth to eat it, and returneth again to feed in the Mountains. And thus much for the discord betwixt Harts and Serpents.

In the next place, great is the variance betwixt Serpents, Dragons, and Elephants, whereof *Pliny* and *Solinus* write as followeth. When the Elephants called Serpent-killers, meet with the Dragons, they easily tread them in pieces, and overcome them, wherefore the Dragons and greater Serpents use subtilty in stead of might; for when they have found the path, and common way of an Elephant, they make such devises therein to intrap him, as a man would think they had the devise of men to help them, for with their tails they so ensnare the way, that when the beast cometh, they intangle his legs as it were in knots of ropes; now when the beast stoopeth down with his trunk to loose and untie them, one of them suddenly thrusteth his poysoned head into his trunk, whereby he is strangled. The other also (for there are ever many which lie in ambush) set upon his face, biting out his eyes, and some at his tender belly; some winding themselves about his throat, and all of them together, sting, bite, tear, vex, and hang upon him, untill the poor beast, emptied of his blood, and swollen with poyson in every part, fall down dead upon his adversaries, and so by his death kill them at his fall and overthrow, whom he could not overcome being alive. And whereas Elephants (for the most part) go together in flocks and troops, the subtille Serpents do let passe the foremost of every rank, and set only upon the hindmost, that so one of the Elephants may not help another; and these Serpents are said to be thirty yards long.

Ælianus.

Likewise, forasmuch as these Dragons know, that the Elephants come and feed upon the leaves of trees, their manner is to convey themselves into the trees, and lie hid among the boughs, covering their foreparts with leaves, and letting their hinder parts hang down, like dead parts and members; and when the Elephant cometh to brouze upon the tree-tops, then suddenly they leap into his face, and pull out his eyes, and because that revenge doth not satisfie her, thirsting only after death, she twineth her gable-long body about his neck, and so stranglenth him.

It is reported that the blood of Elephants is the coldest blood in the world, and that the Dragons in the scorching heat of Summer, cannot get any thing to cool them except this blood: for which cause they hide themselves in Rivers and Brooks, whither the Elephants come to drink, and when he putteth down his trunk they take hold thereof, and instantly in great numbers leap up into his ears, which only of all his upper parts are most naked and unarmed, out of which they suck his blood, never giving over their hold till he fall down dead, and so in the fall kill them which were the procurers of his death. So that his and their blood is mingled both together, whereof

whereof the Ancients made their Cinnabaris, which was the best thing in the World to represent bloud in painting: Neither can any devise or art of man ever come neer it; and beside, it hath in it a rare vertue against poyson. And thus much for the enmity betwixt Serpents and Elephants.

The Cat also by *Albertus* is said to be an enemy to Serpents, for he saith she will kill them, but not eat thereof; howbeit, in her killing of them, except she drink incontinently, she dyeth by poyson. This relation of *Albertus* cannot agree with the Monks of *Mesuen* their relation about their Abby-cat. But it may be that *Albertus* speaketh of wilde-cats in the Woods and Mountains, who may in ravin for their prey kill a Serpent, which followeth with them the same common game.

The Roes or Roe-bucks do also kill Serpents, and the Hedge-hog is enemy unto them, for sometimes they meet both together in one hole, and then at the sight of the Serpent, the Hedge-hog foldeth himself up round, so as nothing appeareth outwardly, save only his prickles and sharp bristles: the angry Serpent setteth upon him, and biteh him with all her force; the other again, straineth herself above measure, to annoy the Serpents teeth, face, eyes, and whole body: and thus when they meet, they lie together afflicting one another, till one or both of them fall down dead in the place. For sometime the Serpent killeth the Hedgehog, and sometime the Hedge-hog killeth the Serpent, so that many times she carrieth away the Serpents flesh and skin upon her back.

The Weasels also fight with Serpents with the like successe; the cause is, for that one and other of them live upon juyce, and so for their prey or booty, they fall together in mortall warre. Herein the Weasel is too cunning for the Serpent, because, before she fighteth, she seeketh Rue, and by eating thereof quickly discomfeth her adversary. But some say, that she eateth Rue afterward, to the intent to avoyd all the poyson she contracted in the combat.

Aristotle.

Perottus.

Isidorus.

Aelianus.

The Lyon also and the Serpent are at variance, for his rusling mane is discouraged by the extolled head of the Serpent to his breast. And therefore as *S. Ambrose* saith, this is an admirable thing, that the Snake should run away from the Hart, the most fearfull of all other beasts, and yet overcome the Lyon, King of all the relidue.

The *Ichneumon* or *Pharos* Mouse is an enemy to Serpents and eateth them, and because he is too feeble to deal with a Snake alone, therefore when he hath found one, he goeth and calleth as many of his fellowes as he can finde, and so when they find themselves strong enough in company, they set upon their prey, and eat it together; for which cause when the *Egyptians* will signifie weaknesse, they paint an *Ichneumon*. The Peacock is also a professed terror and scourge to Snakes and Adders, and they will not endure neer those places where they hear their voice. The *Sorex* and Swine, do also hate and abhor Serpents, and the little *Sorex* hath most advantage against them in the Winter-time, when they are at the weakest. To conclude, the Horse is wonderfully afraid of all kindes of Serpents if he see them, and will not go over, but rather leap over a dead Snake. And thus I will end the warre betwixt Serpents and Four-footed beasts and Fowls.

Bellerophon.

Crut.

Now left their curse should not be hard enough unto them, God hath also ordained one of them to destroy another, and therefore now it followeth to shew in a word the mutuall discord betwixt themselves. The Spider, (although a venemous creature) yet is it an enemy to the Serpent; for when she seeth a Serpent lie under her tree in the shadow, she weaveth or twisteth a thred down from her web upon the head of the Serpent, and suddenly biteh into his head a mortal wound, so that he can do nothing but only roul to and fro, being stricken with a Megrim, whereby he hath not so much power as to break the Spiders thred hanging over his head, untill he be dead and overthrown. The Cockatrice is such an enemy to some kinde of Serpents, that he killeth them with his breath or hissing.

Pliny.

Erasmus.

The Lizard a kinde of Serpent is most friendly to man, and very irefull against Serpents, to the uttermost of his power, whereof *Erasmus* (in his book of Friendship) telleth this story: I saw (saith he) on a day, a very great Lizard fighting with a Serpent in the very mouth of a Cave, at the first sight whereof I marvelled at the matter, for the Serpent was not visible out of the earth: there was with me an *Italian*, who said, that surely the Lizard had some enemy within the Cave. After a little while the Lizard came unto us, and shewed us his side all wounded, as it were craving help, for the Serpent had bitten him sore, for of green he made him appear red, and this Lizard did suffer himself to be touched of us. Thus saith *Erasmus*.

Again, in the same place he saith, that when a Lizard saw a Serpent lye in wait to set upon a man being asleep, the Lizard ran to the man, and never ceased running upon the mans face, scratching his neck and face gently with his clawes, untill he had awaked the man, and so discovered to him his great danger. The Locust also fighteth with a Serpent, and killeth him when he lusteth, for he getteth hold with his teeth upon his lower chap, and so destroyeth him; but this is not to be understood of every kinde of Locust, but only of one kinde, which for this cause is called *Ophiomachum genus*.

The Serpent is also an enemy to the Chamæleon, for in the extremity of famine, she setteth upon them, and except the Chamæleon can cover herself from his rage, he hath no defence but death. *Albertus* calleth a certain Worm, *Spoliator colubri*, because (as he saith) it will take fast hold upon a Serpents neck underneath his jawes, and never give over till he hath wearied and destroyed his adversary. The Tortoises are enemies to Serpents, and will fight with them, but before they enter combat, they arm themselves with wilde Marjoram or Penniroyall.

Aelianus.

Thrasillus.

Pliny.

Ælianus.

But there is not any thing in the world that fighteth more earnestly against Serpents then Sea-crabs and Crevises, for when the Sun is in *Cancer*, Serpents are naturally tormented with pains and feavers, and therefore if Swine be stung or bitten with Serpents, they cure themselves by eating of Sea-crabs. There is a great water near *Ephesus*, at the one side whereof there is a Cave full of many noysome and hresfull Serpents, whose bitings by often probation, have been very deadly both to men and beasts. These Serpents do often times endeavour to crawl over the pool; now on the other side, there are great store of Crabs, who when they see the Serpents come crawling or swimming, they instantly put out their crooked legs, and as it were with tongs or pinfers, reach at the sliding Serpent, wherewithall the Serpents are so deterred, that through their sight, and often remembrance of their unhappy successe with them, they turn back again, and never dare any more adventure to the other side. Where we may see the most wise providence of the Creator, who hath set Sea-crabs the enemies of Serpents, to guard both men and Cattell, which are on the opposite side: for otherwise, the inhabitants would all perish, or else be drove away from their dwellings. To conclude, not only living Creatures, but also some kinde of earth, and Plants are enemies to Serpents: And therefore most famous are *Ebus* and *Creet*, as some say, although *Bellonius* say, that there are *Scolopendries* Vipers, and Slow-worms in *Creet*, yet he saith they are without venom: and there are very few in *England* and *Scotland*, but none at all in *Ireland*, neither will they live if they be brought in thither from any other Countrey. This antipathy with Serpents, proceedeth from living to dead and vegetable things, as trees, herbs, and plants, as may be seen by this discourse following.

There is such vertue in the Ash-tree, that no Serpent will endure to come neer either the morning or evening shadow of it, yea though very far distant from them, they do so deadly hate it. We set down nothing but that we have found true by experience: If a great fire be made, and the same fire encircled round with Ashen boughs, and a Serpent put betwixt the fire and the Ashen boughs, the Serpent will sooner run into the fire, then come neer the Ashen boughs: Thus saith *Pliny*; *Olaus Magnus* saith, that those Northern Countreys which have great store of Ash-trees, do want venomous beasts, of which opinion is also *Pliny*. *Callimachus* saith, there is a Tree growing in the land of *Tachinia*, called *Smilo*, to which if any Serpents do either come neer or touch, they forthwith die. *Democritus* is of opinion, that any Serpent will die if you cast Oken-leaves upon him. *Pliny* is of opinion, that *Alciadum*, which is a kinde of wilde Buglosse, is of the same use and quality; and further, being chewed, if it be spit upon any Serpent, that it cannot possibly live. In time of those solemn Feasts which the *Athenians* dedicated to the Goddesse *Ceres*, their women did use to lay and strew their beds, with the leaves of the Plant called *Agnos*, because Serpents could not endure it, and because they imagined it kept them chaste, whereupon they thought the name was given it. The herb called *Rosemary*, is terrible to Serpents.

Ælianus.

Constantinus.

Ælianus.

The Egyptians do give it out, that *Polydama*, the wife of *Thorris* their King, taking pity upon *Helen*, caused her to be set on shore in the Island of *Pharus*, and bestowed upon her an hearb (whereof there was plenty) that was a great enemy to Serpents; whereof the Serpents having a feeling sense (as they say) and so readily known of them, they straightwayes got them to their lurking holes in the earth: and *Helen* planted this herb, who coming to the knowledge thereof, she perceived that in his due time it bore a seed that was a great enemy to Serpents, and thereupon was called *Helenium*, as they that are skilfull in Plants affirm; and it groweth plentifully in *Pharus*, which is a little Isle against the mouth of *Nilus*, joyned to *Alexandria* with a Bridge. Rue, (called of some Herb of grace) especially that which groweth in *Lybia*, is but a back friend to Serpents, for it is most dry, and therefore causing Serpents soon to faint and lose their courage, because (as *Simocatus* affirmeth) it induceth a kinde of heaviness or drunkenness in their head, with a vertiginy or giddiness, through the excess of his driness, or immoderate ficcity. Serpents cannot endure the favour of Rue, and therefore a Weasel when she is to fight with any Serpent, eateth Rue, as a defensive against her enemy, as *Aristotle*, and *Pliny* his Interpreter are of opinion.

Elecampane in English.

The Countrey-people leaving their Vessels of Milk abroad in the open fields, do besmear them round about with Garlick, for fear lest some venomous Serpents should creep into them, but the smell of Garlick, as *Erasmus* saith, driveth them away. No Serpents were ever yet seen to touch the herb *Trifolie*, or Three-leaved grasse, as *Aedonius* would make us believe. And *Cardan* the Physitian hath observed as much, that neither Serpents nor any thing that is venomous, will lodge, dwell, nor lurk privily neer unto *Trifolie*, because that it is their bane, as they are to other living Creatures: and therefore it is sown to very good purpose, and planted in very hot Countreys, where there is most store of such venomous Creatures. *Arnoldus Villanovanus* saith, that the herb called *Dracontea* killeth Serpents. And *Florentinus* affirmeth, that if you plant Wormwood, Mugwort, and Sothernwood about your dwelling, that no venomous Serpents will ever come neer, or dare enterprise to invade the same. No Serpent is found in Vines when they flourish, bearing flowers or blossoms, for they abhor the smell, as *Aristotle* saith. *Avicen* an Arabian Physitian, saith, that Capers doe kill Worms in the guts, and likewise Serpents. If you make a round circle with the herb *Betony*, and therein include any Serpents, they will kill themselves in the place rather than strive to get away. *Galbanum* killeth Serpents only by touching, if Oyl and the herb called *Fennel-giant* be mixt withall. There is a shrub called *Therionarca*, having a flower like a Rose, which maketh Serpents heavy, dull, and drowsie, and so killeth them, as *Pliny* affirmeth.

Albertus and *Kyranides* affirm, that there is a certain Tree in *Asia*, called *Hyperdiocis*, which soundeth as much as *Against the right hand*, with whose sweet fruit Doves are delighted; but there are Serpents which are sore enemies to the Doves: so lying in wait for them, and not being able to abide the smell & shadow of the tree, the Doves notwithstanding very safely do there in the tree seek their refuge, and finde food wherewith to sustain themselves. *Rasis* (who practised Physick one hundred years) affirmeth, that if any man do melt *Sal Almoniack* in his mouth, and then spit it into a Serpents mouth, that he will die of it.

Of the Medicines made and taken out of SERPENTS.

IT is manifest, that if any man be wounded of a Serpent, though the wound seem incurable, that the bowels or inward parts of the same Serpent, being applyed to the wound, will cure the same; and those that have eaten the liver of a boyled Viper at any time, shall never after be wounded of any Serpent. Neither is a Snake venomous, unlesse at some times of the Moon, when she is thoroughly moved or angered. And a live Snake or Serpent being caught, if the bitten place be bathed, loked, or washed with the Snake being bruised in any water, it is of notable effect. Besides, they are thought to be very soveraign against many infirmities, and therefore (as *Pliny* saith) they are dedicated to *Æsculapius*.

Remedies to be
had and taken
from Serpents.

Avicen saith, that if any be troubled with the Leprosie, he is to be cured by taking a black Serpent, and being excoriated, he must be buried so long till there breed Worms of him, and then he is to be taken forth of the earth and dried, and so to be given to the leprous person for three dayes together, the quantity of one dram at every time, with syrup of Hony. *Pliny*, and with him agreeth *Cornelius Celsus*, affirmeth, that if any one do eat the middle part of Snakes or Serpents, casting away the heads and tayls, they cure *Strumes*, which we in English call the Kings-evil. There is a disease called *Elephantia*, or *Elephantiasis*, which is a kinde of Lepry proceeding of melancholy, choler, and flegme, exceedingly adust, and maketh the skin rough, of colour like an Elephant, with black wannish spots, and dry parched scales and scurf: This disease (I say) so grievous, and *Strumes*; are exceedingly holpen by eating often of Vipers and Serpents, as *John Taganet* in his first Book *Institut. Chirurg.* hath assured us.

Pliny saith, that if you take out the right eye of a Serpent, and so binde it about any part of you, that it is of great force against the watering or dropping of the eyes, by means of a rheum issuing out thereat, if the Serpent be again let go alive. And so he saith, that a Serpents or Snakes heart, if either it be bitten or tyed to any part of you, that it is a present remedy for the tooth-ache: and he addeth further, that if any man do taste of the Snakes heart, that he shall never after be hurt of any Serpent.

Paulus Venetus in his second Book, Chap. 40. writeth, how that in the Province of *Caraiam*, there be Serpents of exceeding greatnesse, which being killed, the inhabitants of the Countrey do pull out their gall, which they use to prize at a very high rate when they sell any of it, for it is very medicinal; so that they which are bit of a mad Dog, if they take inwardly in any drink but the quantity of a penny weight of this gall, they are presently cured. And if a woman be in her travail of childe-birth, if she taste never so little of this gall, the birth will be the more speedy. So if any be troubled either with the Pyles, or Hemorrhoids in the fundament, if that the place be anoynted with this gall, after a few dayes he is set free from his disease. *Hippocrates* giveth the seed of Serpents as a remedy against the suffocation of the belly.

Nicholaus Myrepsus prescribeth this medicine against strains and hardnesse. Take a dead Serpent and put him into a new pot, luting it very well with *Gypsum*, then set it in a furnace that it may be burnt, after that, commixe the ashes of a Serpent with an equall portion of the seeds of Fenugreek, so being wrought up with Attick Hony, and thoroughly digested, anoynt the place affected. And with him agreeth *Pliny*, who expressly affirmeth, that the ashes of Snakes and Serpents, being anoynted upon *Strumes*, either with Oyl or Waxe, is a singular medicine. And likewise to drink the ashes of a Serpent that is burnt to powder in a new earthen pot, is very good: but it will be the more effectually, if the Serpents be killed between two tracks or furrowes that are made with Cart-wheels. The ashes of a Serpent burnt with salt in a pot, being put with Oyl of Roses into the contrary ear, helpeth the tooth-ache.

An unguent against the Morpheue, prescribed by *Olaus Magnus*. Take of the ashes of a Serpent burnt in a new pot, and well covered, two ounces, *Lytbarg*, *Galbanum*, *Ammoniacum*, and *Opoponax*, dissolved in Vinegar, three ounces, boyl them untill the Vinegar be consumed, then strain them, putting to them of Turpentine three ounces, Frankincense, Mastick, and Sarcocolla three ounces, Saffron two ounces, working them with a Spathuler till they be cold. The powder of a burnt Serpent, is likewise good against Fistulaes. The fat of a Snake or Serpent mixt with Oyl, is good against *Strumes*, as *Pliny* saith. The fat of Snakes mixt with Verdegrease, healeth the parts about the eyes that have any rupture. To which agreeth the Poet, when he saith:

*Anguibus ereptos adipos ærugine misce,
Hi poterant ruptas oculorum jungere partes.*

Which may be thus Englished;

*The fat of Snakes mingled with Iron rust,
The parts of eyes doth mend, which erst were burst.*

G g g 2

It

It is certain that barrenness cometh by means of that grievous torment and pain in childe-birth; and yet *Olympias* of *Thebes* is of opinion, that this is remedied with a Bulls gall, the fat of Serpents, and Verdigrease, with some Hony added to them, the place being therewith anointed before the coming together of both parts. When a Woman is not able to conceive by means of weakness in the retentive vertue, then there is no doubt, but there must needs grow some membrane in the bellies entrance, for which it is not amiss to make a Pessary of the fat of a Serpent, Verdigrease, and the fat of a Bull mixt together, &c. and to be applyed, *Hippocrates in lib. de Sterilibus*.

Gesner had a friend who signified to him by his Letters, that the fat of a Serpent was sent to him from those sulphureous bathes which were neer unto *Cameriacum*, and was sold at a very dear rate, namely, twelve pounds for every ounce, and sometimes dearer. They use to mix it with the emplaister of *John de Vigo*, (that famous Chirurgion) for all hardneses, and other privy and unseen (though not unfelt) torments proceeding of the *Spanish* pox. They use it yet further, against leproous swellings and pimples, and to smooth and thin the skin. *Matthiolus* saith, that the fat of a black Serpent, is mixt to good purpose with those Ointments that are prepared against the *French* or *Spanish* pox. And *Pliny* mixeth their fat with other convenient medicines, to cause hair to grow again. The suffumigation of an old Serpent, helpeth the monthly course. *Michael Aloisius* saith, that Oyl of Serpents decocted with the flowers of Cowslips, (ever remembring to gather and take that which swimmeth at the top) is singular to anoint podagrical persons therewith.

Now followeth the preparing of Serpents: Take a Mountain Serpent, that hath a black back, and a white belly, and cut off his tail, even hard to the place where he sendeth forth his excrements, and take away his head with the breadth of four fingers; then take the residue and squeeze out the blood into some vessel, keeping it in a glass carefully, then fley him as you do an Eele, beginning from the upper and grosser part, and hang the skin upon a stick and dry it, then divide it in the middle, and reserve all diligently. You must wash the flesh and put it in a pot, boyling it in two parts of Wine, and being well and thoroughly boyled, you must season the broth with good Spices, and Aromatical and Cordial powders, and so eat it. But if you have a minde to roast it, it must be so roasted, as it may not be burnt, and yet that it may be brought into powder, and the powder thereof must be eaten together with other meat, because of the loathing, and dreadful name, and conceit of a Serpent: for being thus burned, it preserveth a Man from all fear of any future Leprosy, and expelleth that which is present. It keepeth youth, causing a good colour above all other Medicines in the world; it cleareth the eye-sight, gardeth surely from gray hairs, and keepeth from the Falling-sickness. It purgeth the head from all infirmity, and being eaten (as before is said) it expelleth scabbiness, and the like infirmities with a great number of other diseases. But yet such a kinde of Serpent as before we have described, and not any other, being also eaten, freeth one from deafness.

You may also finely mince the heads and tails of Serpents, and feed therewith Chickens or Geese, being mingled with crums of Bread or Oates, and these Geese or Chickens being eaten, they help all to take away the Leprosie, and other foulness in Mans body. If you take the dried skin, and lay it upon the tooth on the inner side, it will mitigate the pain thereof, specially if it proceed from any hot cause. In like sort, the same skin washed with spittle, and with a little piece of the tail laid upon any Impostume, or *Noli me tangere*, it will tame and master the pain, causing it to putrefie more easily and gently, and scarcely leaving behind any cicatrice or skar. And if a Woman being in extremity of pain in Childe-birth, do but tie or binde a piece of it on her belly, it will cause the birth immediately to come away. So the skin being boyled and eaten, performeth the same effects that the Serpent doth.

The blood of a Serpent is more precious then *Balsamum*, and if you anoint your lips with a little of it, they will look passing red: and if the face be anointed therewith, it will receive no spot or fleck, but causeth to have an orient or beautifull hew. It represseth all scabbiness of the body, stinking in the teeth and gums, if they be therewith anointed. The fat of a Serpent, speedily helpeth all redness, spots, and other infirmities of the eyes, and being anointed upon the eye-lids, it cleareth the eyes exceedingly. *Item*, put them into a glassed Pot, and fill the same with Butter in the Moneth of May, then lute it with well with Paste, (that is, Meal well kneaded) so that nothing may evaporate, then set the Pot on the fire, and let it boil welnigh half a day; after this is done, strain the butter through a cloth, and the remainder beat in a mortar, and strain it again, and mix them together; then put them into water to cool, and so reserve it in silver or golden boxes, that which is not evaporated, for the older, the better it is, and so much the better it will be, if you can keep it forty years. Let the sick Patient, who is troubled either with the Gout, or the Palsie, but anoint himself often against the fire with this unguent, and without doubt he shall be freed, especially if it be the Gout. All these prescriptions, were taken from the writings of a certain nameless Author.

Hippocrates saith, that a Hart or Stag having eaten any Serpents, the worms in their guts are thereby expelled. And *Absyrus* hath the same words, that Harts by eating of a Serpent, do kill and expell worms from their guts. *Hierocles*, to a certain medicine which he prepared for the Strangulion in a Horse, mingled the dung of a Lizard, and *Stear herpetuou*, (that is, as I interpret it) the fat of a Serpent, the blood of a Dove, &c. *Laurence Rustus* saith, that it is good to give the flesh and decoction of Serpents to madde, biting, and striking Horses. And that the fat of a Serpent, &c. doth

doth cure the puffing or swellings that arise in Horses backs, which come by means of any compression, or close sitting and thrusting down.

Item, The unguent that droppeth from a Serpent, whilest he is roasted on a spit, is highly commended for Fistulaes that are in Horses hoofs. *Galen* and *Rafius* do counsell us to cut in pieces a Snake or Serpent, and to lay the fat thereof upon a stick, and to anoynt the outward parts of the hoof of any Horse. Horfeleaches, live Mice, the green Lizard being burned, if they be given to a Hawk in her meat, they do cause a speedy mutation of her feathers or wings; and the same effect have little River-fishes, finely beaten or stamped, if they be cast upon any meat.

Item, the Serpent that is speckled, and of divers and sundry colours, of all others, hath the least poyson; and in the *German* tongue it is called *Huf*, (peradventure it is that which we call a Snake) if (I say) you take this Serpent, and boyl it with Wheat, and give the same Wheat to a Hen to feed upon, being mingled amongst her meat and drink with the venom of a Serpent; a Hawk being fed with the flesh of such a Hen, forthwith casteth her sick feathers, and is freed from any other disease, if she have any at all, as *Albertus* saith.

The old skin of an Adder or Snake, that he casts off in the Spring time, if it be rubbed upon the eyes, cleareth the sight, as *Pliny* saith. And *Galen* biddeth us, if any be troubled with bloud-shotten eyes, to take the old cast skin of Serpents, & being beaten with Sea water, to anoint them therewithal. And *Cardan* saith, that the cast skin of a Snake, if the eyes be rubbed therewith every morning, that they will never be very dim of sight, nor yet ever have any pin or web in them. Amongst compositions that are made for the eyes, they use to mix the cast skin of Snakes, as *Dioscles* affirmeth; adding further, that the old age, or cast skin of a Snake being boiled in Wine, is an excellent help for pain in the ears, if a little thereof be dropped into them. Boyl the cast skin of a Snake with tops of Poppy, and drop a little thereof into the ears, if any be troubled with pain thereof, and this is an excellent remedy, as *Galen* in his third Book, *De Composit. medicam. sc. loca*, hath taught us, having himself learned the same from *Archigenes*. The cast skin of Serpents being burned in a pot, or on a hot burning tyle-shard, if it be mingled with Oyl of Roses, and so dropt into the ears, is proved to be very effectual against all sores, and sicknesses of the ears; but especially against the stinking savour of them; or if they be purulent or full of matter, then to be mixt with Vinegar. Some use to mingle Bulls gall therewith, and the juyce of the flesh of Tortoises being boyled.

Marcellus saith, that if you take the gall of a Calf, with a like quantity of Vinegar, and mix them with the cast skin of a Serpent, if then you dip a little Wooll into this medicine, and put it into the ear, that it helpeth very much, especially if with a sponge being soaked in warm-water, you first foment the ear. *Dioscorides* and *Galen* do affirm, that the cast skin of a Serpent, if it be boiled in Wine, doth cure the tooth-ach, if the pained place be washed therewith. But yet, in intolerable pains of the teeth, this is proved more singular. Take the cast skin of a Serpent and burn it, then temper it with Oyl till it come to the thickness or consistence of hard Honey, and cover the tooth (being first scoured and cleansed therewith, anointing all the neer places to the same, and put some of it into the hollownes of the tooth. And as *Archigenes* saith, if you lay the cast skin of a Snake unto the teeth, not being burnt, they will all fall out. It cureth likewise the low sicke evill called *Phthiriasis*. And *Galen* prescribeth this cast skin of Snakes or Serpents, for a remedy against the Colick, if it be put into a brasse pot with some Oyl, and so burnt to powder, if then it be dissolved in Oyl, and the place therewith anointed, it is of great vertue. And if it be boiled in a Tin vessel with some Oyl of Roses, it remedyeth the Bloudy-flux, and such as be troubled with *Tenesmus*, which is, a great desire in going to stool, and yet can do nothing.

Arnoldus de Villa nova, in his Breviary saith, that if you take the cast skin of a Serpent, *Opopanax*, Myrrhe, *Galbanum*, *Castoreum*, yellow Sulphur, Madder, Pigeons or Hawkes dung, and incorporate them with the gall of a Cow, they being first pulverised, and the same thereof received through a tunnel at the lower parts, it bringeth forth either the dead or living birth. *Cardan lib. de Subtil.* saith, that the cast skin of a Serpent burned in the full of the Moon; and entring into the first degree of *Aries*; if the ashes thereof be sprinkled on the head, that thereby terrible and fearful dreams will follow. And if the face be anointed or washed therewith, being first laid in water, that it will cause one to look very fearfully and horribly: and if it be held under the tongue, it will make one very wise and eloquent: and if it be kept under the soles of the feet, it maketh one very gracious among Princes, Magistrates and Great men. And another saith, that this cast off skin being pulverised when the Moon is in her increase, and in the first degree of *Aries*, if the powder thereof be set on the table, in a wooden or metalline dish; if any poyson be therein, it will be dispersed and do no hurt, and yet the powder will remain safe and whole: and if given to a Leprous person, his disease will spread no further. And if you put a little of this powder into any wound, it will cure it within three days. I have seen (saith *Galen*) Goats that have eaten of the boughs and leaves of *Tamarisk*, and I have found them without a Spleen: also I have seen other Goats that have licked up Serpents after they had cast their skin; and I have proved, that after that, they have grown very white, and to have kept their young years a great while; so that it was long before they waxed old.

Of the way to drive away Serpents. Of their poyson and bitings.

A certain and sure way to cure those who either have been poysoned, in-venomed, or bitten by them.

Suffumigations
to expell Ser-
pents.

TO expell and drive farre away any venomous Creatures, we use to make fumigations of the root of Lillies, Harts-horn, and the horns and hoofs of such beasts as be cloven footed: likewise of Bay-leaves and berries, Calamint, Water-creffes, and the ashes of the Pine-tree. The leaves of *Vitex*, *Bitumen*, *Castoreum*, *Melanthium*, Goats-horns, *Cardamomum*, *Galbanum*, *Propolis*, which may be called Bee-glew, the herb called *Horsfrange*, *Panax*, *Opopanax*, *Fleabane*, the shavings or scrapings of the Cypresse or Cedar-tree being steeped in Oyl, the Jet-stone, *Sagapinum*, the herb called *Poley*, Fern, and all other things that have a strong or vehement ill savour, being cast on the coals for a fumigation, do with their vapour chase away venomous beasts. For whereas all venomous Creatures have the passages or pores of their bodies very straight and narrow, they are very easily filled and stuffed, and are quickly stopped and suffocated by such like fents and smells.

Actius in his thirteenth Book setteth down an excellent fume after this manner. Take of *Galbanum*, of *Sandracha*, Butter, and of Goats-fat, of every one alike much, make them into Pills, and use them for a fumigation. *Nicander* in *Theriakis* setteth down some for the same intentions, in these Verses.

*Cervinique gravi cornu nidore fugabis :
Et sic cum accendens Gagata quandoque lapillum,
Quem consumentis non exedit impetus ignis :
Multifidam filicem crepitantibus injice flammis,
Aut imas viridis libanotidos accipe fibras,
Tantumdemque acris nasturci : his junge duobus
Æquali caprea jam jactum pondere cornu,*

In English thus;

*By Hart-born fume do Serpents slide away
When stone Gagates burning's put thereto :
Which heat of fire doth not clean destroy :
Then int' those flames cast many-leaved Fern also.
Of green hogs-fennel, take the lowest branches,
Of Nosewort sharp, so much : then to them joyn
A like proportion of Roes horn in weight and kanches,*

*Aut exiccantem nares cerebrumque nigellam,
Interdum Sulphur, sædum quandoque Bitumen,
Ut sumpta equali pendantur singula parte.
Præterea graveolens candentibus indita prunis
Galbana, & ignitum faciens urtica dolorem,
Dentatisque cedrum maxillis scdile lignum,
Omnibus invisum Serpentibus est odorem.*

*Or else Nigella, drying nose and brain,
Or Brimstone, called filthy Sulphure,
So all be equall in weight and parts to cure.
Besides Galbanum rank, laid on burning coals,
Or nettles, which do cause a fiery pain,
And Cedar cut, all burn'd bout Serpents holes,
Them overcome, and make them flie amain.*

The breath or vapour that issueth from Serpents is so pestilent, that it killeth all young chickens, as *Columella* saith; and for preventing of this mischief, it is good to burn Harts-horn, Womens hair, or *Galbanum*.

*Vis & mirificos cautus perdiscere odores,
Accensis quibus arcetur teterrima Serpens,
Aut Styracem uras, aut atri vulturis alam,
Vel Nepetam aut frondem rigide stirpemque myrica.*

In English thus;

*If thou wouldst learn what odours for thy skill
Were best to scare the Serpent fierce away,
Burn Styrax, or black Vultures winged quill,
Or Neppe, green leaves, or stock of Tamarisk assay.*

And *Pliny* and *Sextus* agreeing with him, do say; that if you burn the feathers of a Vultur, all Serpents will quickly avoid the strong sent thereof. There is a certain River in the Countreys of *Media* and *Pæonia*, (as *Aristotle* testifieth) wherein there is a stone found, with whose fume Serpents are chased away: whose property is such, that if any man cast water on it, it will burn, and burning, if with any Fan you go about to make it to flame, it is straightway quenched; and thus being extinguished, it sendeth forth a savour stronger then any Brimstone. And to this subscribeth *Nicander* in these words.

*Vel tu Threicium flamma succende lapillum,
Quilicet irriguis mersus tamen ardet in undis,
Expressaque statim restinguitur unctus oliva,*

*Hanc quem fluctisoni mittant de littore Ponti,
Qui, rude vulgus, ibi vefcentes carne magistri
Pascendi pecoris sua post armenta sequuntur.*

In English thus;

*Or take the Thracian stone, which set on fire
Will burn in water, yet quenched is with Oyl.
This cast from Pontus shore, Heard-men desire,
The better to feed their flocks, and Serpents foyle.*

The powder of a Cedar tree, putteth to flight venomous Serpents, as *Virgil* in the third of his *Georgicks* witnesseth.

*Disce & odoratum stabulis accendere Cedrum,
Galbanoque agitare graves nidore chelydros.*

Which may be Englished thus;

*Learn how of Cedar, fire in thy folds to make,
And with Galbanums savour, put to flight the Snake.*

Things that are strewed or laid under us, both in our houses and in high-ways or beds, will likewise defend and keep us from venomous creatures: as for example; Southernwood, Dittander, Fleabane, Calamint, Gentian, *Hastula regia*, Sage, Nightshade, S. Johns wort, called of some *Fuga demonum*; Marjoram, Origan, wilde Rue, wilde Thyme, Bay-leaves, the shavings or tops of the Cypress or Cedar-tree, *Cardamomum*, Penroyal, Wormwood, Mugwort, *Lysimachia*, called in English Loose-strife, and Rosemary. And if we cannot lie upon such a bed;

Of such things as are laid under us, that will expel Serpents.

*Tunc juxta virides sinuosi vorticis alveos,
Amnicolam nepetam per obesas collige ripas.
Aut tibi casta salix, pulchro qua flore renidet,
Præbeat, instrata securum fronde grabatum.
Sic quoque montanum polium, cujus grave spirant
Horret odor, nomenque suum qua debet eebidne
Herba, & ab Euxina qua fertur origanus urbe,
Quæcunque illarum decerpitur obvia, prædest.
Quin etiam multo per aprica cacumina flore*

*Ridens abrotonum, pecorique ingrata petitum
Pabula serpyllum, molli quod pascitur horto.
Præstat item exiguum circumlustrare conyzam;
Urticeasque comas, & spinosas anagyros;
Sic & punicea scissis ex arbore ramis,
Regalisque amplis licet hasta frondibus uti.
Accipe item innocuo medicantem frigore strumum,
Atque invisâ pigris Scyra prima æstate bubulcis.*

Nicander.

In English thus;

*Then by the winding banks of crooked streams
The Water-nep take up, which under-foot is tread,
Or the chaste Osier, whose fair flower bath beams
And leaves, secure from Serpents make thy bed.
The Mountain Poley, whose strong smelling breath
The snakes abhor, & that which doth the hydra name,
The Origan which cometh from Euxinus earth,
Do profit all gainst Serpent, if you bear the same.*

*The smiling Southernwood, which groweth on tops of
Wilde Marjoram, to beasts abhorred food, (hills,
Conyza strewed, the haunt of Serpents spills,
The Nettle-crops, thorny Anagres stay their mood,
So do Pomegranate branches cut from tree;
And the broad leaves of Kingly Hasta use,
Strume, healing strumes in harmless cold I see,
And Scyra, which in Summer Neatbeards do refuse.*

In like sort, to sprinkle the place with water, where in *Sal Ammoniacum* is dissolved, driveth away Serpents, as *Avicen* affirmeth.

If any one anoint himself either with Dears-sewet, the fat of Elephants or Lions, Serpents will shun that person; and there be some, (as *Pliny* saith) that for fear of Serpents, do anoint their bodies with the seeds of Juniper. The juyce of the black Vine extracted from the root, and anointed on the body, performeth the like. For preservation from Serpents, *Nicander* compoundeth this ointment. Take two Vipers about the end of Spring time, Deer-sewet thirty drams, *Ungenti rosati* thirty six drams, crude Oyl of Olives as much, commix them with nine ounces of Wax, boil the Serpents till the flesh fall from the bones, which you must cast away because they are venomous.

Of Unguents and things born about us, from which Serpents will run away.

They that will yet be more assured, let them anoint their bodies with a thin cerate, made of Wax, Oyl of Roses, a little *Galbanum*, some powder of Harts-horn, or else Cummin-seed of *Æthiopia*, &c. *Aetius*. If a man carry about him the tooth of a Stag, or those small bones which are found in his heart, he shall be secured from Serpents. If any one do bear about him wilde Bugloss, or the root of the wilde Carot, he cannot be wounded of any Serpents. *Grevinus* is of the minde, that the Jet-stone, beside other manifest qualities, hath yet this as peculiar to it self, that he which carryeth it about with him, need neither to fear Serpents, nor any other poysons.

Now for venomous beasts, which are found in any houses, the best way is to pour scalding water into their dens and lurking holes. And if any man (constrained by necessity) can finde no other place to sleep, but such a one as where Salamanders, the Spiders called *Phalangia*, or the like Serpents do abound, it is good to stop the holes and corners with Garlick beaten with water, or some of those herbs which before we have spoken of. But yet men now adays hold it the safest course, to pour unquenched Lime sprinkled with water into their dens and secret corners.

As they that are bitten by a mad Dog, so all such persons be wounded by venomous creatures, are in exceeding great danger, unless at the first they receive speedy help and succour: The safest way therefore to cure the poyson, is by attractives, which draw from the more inward parts to the surface, and not to make too much post-hast in closing up the wound. But if any one hath swallowed down, and taken inwardly any poyson, the best way is (as *Dioscorides* writeth) to vomit often; but if any be wounded by biting, then it is best to use scarification, and to fasten Cupping-glasses upon the place affected, to draw out the poyson. Some use to suck the venom out, and others to cut off and dismember the part. And this is to be observed, that if any one will undertake to suck out the venom, the party that attempteth it must not be fasting; and besides, he must wash his mouth with

some

some Wine, and after that, holding a little Oyl in his mouth, to suck the part, and to spit it presently forth. And before Cupping-glasses be applyed, the part must first be fomented with a Sponge, then scarified deeply, that the venomous matter may the more speedily be drawn out from the more inward parts; and yet cutting off the flesh round in a compass, doth more good then any scarification.

But if the place will admit no section or incision, then cupping-glasses, with deep scarification, with much flame, must needs be used: for by attraction of the bloud, and other humors with windiness, the poyson it self must of necessity follow. And *Aetius* in his 13. Book and tenth Chapter, counselleth that the sick person be kept from sleep, and so sit still, until he finde some ceasing or releasing from his pain. Besides, the member which is envenomed, ought to be bound round about, that the poyson may not too easily convey it self, and penetrate into the more noble and principal parts, as the heart, liver, or brain. And in this manner having applyed your Ligature, you must by the advice of *Fumanellus*, set on your Cupping-glasses, and they being removed, apply the herb Calamint upon the place, and to give the patient some of the root of Mugwort in powder, or the best Treacle, and such Cordials as do corroborate the heart; and for this intent, Bugloss, Borage, Balm, and any of their flowers are much commended.

A Dove or Pigeon being divided in the midst, and applyed hot to the place affected, attracteth poyson to it self, and healeth. And the same effect and vertue have other living creatures, as namely, Hens and Chickens, young Kids, Lambs and Pigs, if they be set to in the beginning, immediately after the Cupping-glasses be removed, for being as yet hot and warm, they draw out the poyson, and mitigate pain. But if neither any one for love or money can be found, that will or dare suck out the venom, and that no Cupping-glass can be provided, then it is best that the patient do sup of Mutton, Veal, or Goose broth, and to provoke vomiting. Yet they that will more effectually and speedily give help, use to kill a Goat, and taking out the entrails, with the warm dung therein found, forthwith binde unto the place.

The learned Physitian *Matthiolus*, in his Comment upon *Dioscorides*, saith; that to avoid the danger that cometh by sucking out the venom, men now adays use to apply the fundament of some Cock or Hen, or other Birds after the feathers are puld off, to the wounded place, and the first dying, to apply another in the same order, and so another and another, until the whole venomous matter be clean driven away: whereof one may be certainly assured, if the last Hen or Bird so applyed, do not die. *Avicen* the Arabian saith, that the Physitians of Egypt, (in which Countreyy there be infinite store of venomous Beasts) do hasten to burn the part with fire, as the safest and surest remedy, when any one is this way endangered: For fire not only expelleth poysons, but many other grievances. But the way how they used to burn with fire, was divers in these cases: For sometimes they used to sear the place with a hot Iron, and other whiles with a cord or match being fired, and sometimes scalding Oyl, and many other devises they had with burning medicaments, to finish this cure, as saith *Hieron. Mercurialis* in his first book *De Morb. Venenatis* writeth, and *John Tagault*, *Instit. Chirurg. lib. 2.* saith, that the wound must first be seared with a hot Iron (if the place can endure it) or else some caustick and vehement corroding medicine must be used: for all such wounds are for the most part deadly, and do bring present death, if speedy remedy be not given: and therefore, according to *Hippocrates* counsel, to extream griefs, extream remedies must be applyed; so that sometimes the safest way is to take or cut off that member, which hath either been bitten or wounded.

Neither am I ignorant (saith *Dioscorides*) what the Egyptians do in these cases: For when they reap their Corn in Harvest time, they have ready at hand prepared, a pot with pitch in it, and a string or band hanging at it; for at that time of the year they are most afraid of Serpents, which then chiefly do hide themselves in dark holes, and caves of the earth, and under thick clots and turfs, for Egypt aboundeth with such venomous and poysonful creatures. When as therefore they have wounded either the foot or any other part, they that are present, do put the string into the pot of pitch, and binding the place, they fall to cutting it with some instrument round in compass as the string is tyed, after this done, they pour in of the pitch a sufficient quantity, then untying and loosing the band, they lastly anoynt it with Garlick and Onions.

A certain Countryman being bitten of a Serpent, perceived by and by his foot to swell, and by little and little the force of the poyson to swell up higher, and nearer to the heart, the Castle of life: who being taught and instructed of an old woman, to bury his foot under the earth, and to cut a Hen into two parts to apply to the wound, and to the Hen she wished him to lay a live Frog, who continually sucking the bloud from the Hens flesh, might by this means at length attract and draw all the poyson into it self. So when he had held his foot a whole night covered and buried under the earth, and finding no abatement, but rather an increase of his tormenting pain; at length by the advise and direction of a certain Noble Matron, he drank a good draught of *Theriaca* and Hony tempered in Ale, and so after a few hours fell on a great and continual vomiting, by which means he was perfectly freed from the pains of the upper parts of his body, his feet notwithstanding continuing in their former swelling: which was also taken clean away, only by drinking the milk of a black Goat, so much in quantity at a time as one Egge-shell would contain, his foot in the mean space being held or plunged in a sufficient quantity of the same milk. From which there issued and ran a foul stinking glutinous and snively matter, and this he was admonished to do by a certain Priest. But yet afterwards by chance, washing himself in a hot sunny day in a certain River, and

and sitting upon the bank, his feet hanging down into the water, and he falling fast asleep, (he knew not well how long time he so continued) at length awaking, he plainly perceived the water that was neer, on all sides to be filthy, stained and polluted with much stinking matter, and as it were dreggy, refuse and feculency, and from that time forwards, he remained well and lusty, and as sound as a Bell.

Another time a Maid being bitten of a Serpent, laid presently upon the wound some fresh Cheefe made of the milk of a white Goat, and pouring or sprinkling her foot with the milk of the same Goat, as a defensative for that part, was by this means restored to her former health, as a certain learned man testified in his Letters written to *Gesner*.

Vegetum affirmeth, that if any living creature be bitten and wounded of venomous Beasts, the place which is hurt, must first of all be suffumigated with Hens Egge-shells burnt, which first ought to be infused in Vinegar, with a little Harts-horn, or *Galbanum*. After fomentation, the place must be scarified, and the blood must be let out, or else the place must be seared with a hot Iron, so far as the venom stretcheth. And this care must be had, that the Cauter be never applyed and laid either above the joynts, or sinewy parts at any time, for the sinews or joints being seared and burnt, there must of necessity a continual weakness and debility follow. Therefore great diligence must be used, that neither a little above, nor a little beneath the nerves and joynts, we lay any Cauterizing medicine, yea, although necessity biddeth us. But it is also requisite that every one thus wounded, do gently and easily provoke sweating with warm clothes cast upon him, and afterwards to walk up and down, and to take Barley-meal in his meat, with some leaves of the Ash-tree, and the white Vine added to it. And to the wound it is good to apply *Attick* Honey, or Cummin heated and parched, and so mixed with old Wine. Some use to mix new Hogs dung and *Attick* Honey tempered together with Wine, and so being warmed, to apply it as a Cataplasme, adding to it some urine of a Man.

I have said before, that young Chickens being dissected or cut in pieces when they are warm, ought to be laid to the stinged part: and some there be that yeeld this reason why they should be good for this purpose, because (say they) there is a natural antipathy betwixt them, and venomous creatures. But this reason is reasonless, and I think rather, that Hens or young Birds, being of a very hot nature and complexion, do easily concoct and digest notable poyson, and their stomachs do consume most dry and hard seeds, which the strongest man living cannot do; which may easily also be proved by this argument, that many times by their ravening, they swallow down sand and little stones, which they do easily dissolve, and their crops very soon discharge, without any offence to them at all. And therefore the spirits of an invenomed person, being helped and refreshed with the lively and strong natural heat of these fowls thus applyed, and receiving and acquiring strength from the part wounded, and so hastily leaping out as it were, and quickly sparkling forth, they do expel, shut and draw out the poyson.

Now, after we have described the general method of curing this mischevius evil, we will now descend to particular remedies, observing ever this rule and order, that first I will speak of such means as are topical, or such as are outwardly applyed; and next of such as be taken inwardly, and in both of them I will first describe compound, before I speak of simple medicaments. This one Lesson you must carry with you, that many remedies are prescribed and set down, which be not only good for the bitings of Serpents, but also for the bitings and stings of all other venomous creatures, as namely, of Scorpions, Tarantulaes, Spiders, and the like. But yet, sith these do properly respect Serpents, I will in this place set them down: beginning first (according to my promise) with such compounded medicines, as are applyed outwardly for the help against the stinging of Serpents.

Theriaca Andromachi applyed Plaister-wise, is notable for this purpose. So there be other vehement strong Plaisters, whose vertue is to attract, expel, and discuss venom, of which are those which are made of Salt, Niter, Mustard-seed, and Rosemary-seeds, Dittany, or Dittander, and the root of Chamæleon: and this that followeth is of singular vertue. Take of the scum, froth, or spume of Silver one pound, Ceruse, and of the best Turpentine, of either as much as of the former, old Oyl three pounds, Wax six ounces, *Ammoniacum Thymiana*, four ounces, and of *Galbanum* as much: boyl the Ceruse, the scum of Silver, and the Oyl so long, that they will not cleave unto the hands, then melting the other ingredients, incorporate them all together, and use them when need is for any bitings, &c.

There is an Emplaister fathered upon one *Epigonus*, and bearing his name: for this *Epigonus* being in close Prison, and condemned to die, for revealing this Medicine had his Pardon granted him, and was freely discharged, because he therewith healed the daughter of the Emperour *Marcus*: for being sorely wounded by a Serpent in her breast, and all other Physitians despairing of help, yet with this she was recovered. It is also good for all new and old Ulcers, and for such as are either bitten by any kinde of venomous creeping Worms and Serpents. Take of *Squammaria*, (which is the scales and offal of Brasse, blown from it in melting) of *Ammoniacum*, *Aloes hepatica*, Verdigrease, of *Æsculum*, of Frankincense, *Sal ammoniacum*, *Aristolochia rotunda*, of every one half an ounce, Turnep-seeds three scruples, of the root of Dragon-wort half an ounce, seeds of Mugwort nine scruples, pure Wax five pound, of *Colophonia* one pound, old Oyl three ounces, sharp Vinegar half a spoonful, Mustard-seed three scruples, *Spodium* nine scruples, Stone-allum and *Opopanax*, of either half an ounce: Infuse the metalline ingredients for three days space in Vinegar,

Vinegar, and beat and powder them together, melting those that are to be melted, then sprinkle on those that are dry; and all of them being thoroughly wrought and made up, according to the form of an Emplaister, use them where necessity requireth.

Antonius Fumanellus, a late Physitian, prescribeth an experimented, and (as he calleth it) a divine Oyl against any poyson taken into the body, or the biting of any venomous Beasts and Serpents, whether it be received inwardly by drinking it down, or anointed outwardly upon the body, and this is it that followeth. Take of Oyl of Olives one pound, the flowers and the leaves of the herb called *S. Johnswort* bruised, boyl them for the space of three hours, and strain them, then boyl again other fresh flowers and leaves of the same herb and strain them hard, and do so again the third time, then add to them of the roots of *Gentian* and *Tormentil*, of either one ounce, boyl and strain them as you did before, and reserve this Oyl for your use.

Andreas Matthiolus in his Commentaries upon *Dioscorides*, doth exceedingly commend Oyl of *Scorpions*, because being anointed upon the pulses outwardly, it is (as he affirmeth) a singular remedy, not only against any poyson taken inwardly into the body by the mouth, but for the bitings and stings of any venomous creature whatsoever. The way to prepare and make it, he describeth at large, in his Preface upon the sixt Book of *Dioscorides*, which I think needles here to describe to avoid tediousness; therefore if any one be desirous to know the composition of it, let him read *Matthiolus* in the place before cited. Unquenched Lime mixed with Hony and Oyl, and applyed to the place the thicknes of a cerote, is good against the wounds that come by any venomous Beasts biting.

Now I think it meet to set down those simple medicaments which are outwardly to be applyed, either by laying on, or by anointing, against the sting and venomous biting of Serpents. It is best first to foment the sore place with hot Vinegar, wherein Catamint hath been boyled, and in stead of Vinegar, one may take Salt-water, or Southernwood, Maidenhair and Garlick, either in drink, meat, or to be used as an Ointment. The root of Aram, and Astrologe, and the leaves of the true Daffadil, and Oyl of Balm, is most effectual: also Bdelium, and the root either of the white or black Beet, is good against the bitings of Serpents.

Betony, Coleworts, especially the wilde Coleworts, Calamint, the leaves of the wilde Fig-tree, Centory, Onions, Germander, Chamæleon, the herb called Fleabane, wilde Carrets, Rocket, Heath, Fennil, Figs, Winter Cherries, *Enula Campana*, Barly-meal, the Day-lilly, Hyfop, the Flower-deluce-root, Horehound, Balm Water-creffes, Basil, Origan, Plantine, Leeks, Turneps, Madder, Rue, Vervain, Mustard-feed, Scabious, and Saint Johnswort, all these plants are greatly praised amongst the Writers of Physick, for the mischiefs abovesaid.

Pliny is of opinion, that the bowels or entrails of Serpents themselves, being applyed, will surely cure the wounds of all other Serpents, although they seem incurable. A live Serpent being caught, if it be bruised, beaten and stamped in water, and the hurt place fomented therewith, will assuredly help and do much ease.

*Quæ nocuit Serpens, fertur caput illius aptè
Vulneribus jungi, sanat quæ sauciat ipsa,
Ut Larissæ curatus Telephus hosta.*

Quæ Serpens.

Which may be thus thus Englished;

*What Serpent hurteib, Men say by long experience,
His head applyed doth cure: for where the wound,
The help is also made, as in Telephus sense,
Harm'd by Larissus spear, by it was cured found.*

And *Gul. Varignana* saith, divide or cut a Serpent, and lay it upon the place, and it will mitigate the anguish and pain. The seed of *Thraspi* and of *Tubimal* (which is a kinde of spurge) is greatly used for this; *Aut Tubimallus atrox, vulnus quæ iuta perungat.* Some besides these, do put the root of black Hellebore into the wound, because it draweth out the poyson, as I by mine own experience can testifie, saith *Matthiolus*.

There be also sundry Antidotes and Preservatives which are taken inwardly; that are very effectual against the bitings of Serpents and venomous beasts, as namely that, which is called *Theriaca Andromachi*, or Mithridate, and the like compositions. *Galen* in his Book *De Theriaca ad Pisonem*, preferreth *Theriaca Andromachi* before all other medicines either simple or compound, for virulent wounds; because it performeth that effect for which it is ministred. For it was never as yet heard, that ever any one perished of any venomous hurt or biting, who without any delay forthwith drank this medicine: and if any man had taken it before he received any such dangerous hurt, if he were set upon and assailed by any poysonous creature, it hath not lightly been heard that he hath dyed of the same. There be many Antidotes described by the Ancients, which they set down to be admirable for these passions: As for example, that which *Avicen* tearmeth *Theriaca mirabilis*, whose composition is as followeth. Take of *Opium* and of *Myrrhe*, of either of them a dram, Pepper one dram and a half, the root of *Aristolochia longa* and *rotunda*, of each of them three drams, Wine two drams; make them up with Hony and Rocket water, so much as is sufficient for an Electuary: the quantity to give, is four scruples, relented in some fit and convenient decoction.

King *Antiochus*, surnamed *Magnus*, had a kinde of *Theriaca* which he used against all poysons, which is described of *Pliny* in his 20. Book and last chapter in this wise: Take of wilde Thyme, *Opopanax*, and the herb called *Gromel*, of each a like much, two drams, *Thistle* one dram, of the seeds of Dill, Fennil, Smallage, Anise, and *Ameos*, of every one alike six drams, of the meal of *Orobis* twelve drams: all these being powned and finely searfed, must with Wine a sufficient quantity, be made into Trochiscs, whereof every one must weigh one dram, give thereof one dram at a time in a draught of Wine. There is another Antidote and preservative against any poyson, described by *Paulus Aegineta*, much like unto this, which is thus: Take of Bryony, *Opopanax*, of the root of *Iris Illirica*, and of the root of Rosemary, and of Ginger, of each of these three drams, of *Aristolochia* five drams, of the best Turpentine, of wilde Rue, of each three drams, of the meal of *Orobis* two drams, make them into Trochiscs with Wine, every one weighing one scruple and a half, or two scruples to be given in Wine.

Galen in his second Book *De antidotis*, chapter 49. discourseth of a certain *Theriacal* medicament, called *Zopyria antidotus*, (so taking the name of one *Zopyrus*) which was notable against all poysons, and bitings of venomous creeping creatures. This *Zopyrus* in his Letters written unto *Mitridates*, solicited him very much, that he would make some experiment of his Antidote: which as he put him in minde he might easily do, by causing any one that was already condemned to die, to drink down some poyson aforehand, and then to take the Antidote: or else to receive the Antidote, and after that to drink some poyson. And put him in remembrance, to try it also in those that were wounded any manner of way by Serpents, or those that were hurt by Arrows, or Darts, anointed or poysoned by any destroying venom: So all things being dispatched according to his pramonition, the Man (notwithstanding the strength of the poyson) was preserved safe and sound by this alexipharmatical medicine of *Zopyrus*.

Martiolus in his Preface upon the sixth Book of *Dioscorides*, entreating of Antidotes and preservatives from poyson, saith; that at length, after long study and travail he had found out an Antidote whose vertue was wonderful and worthy admiration; and it is a certain quintessence extracted from many simples, which he setteth down in the same place. He saith it is of such force and efficacy, that the quantity of four drams being taken either by it self, or with the like quantity of some sweet senting Wine, or else with some distilled water, which hath some natural property to strengthen the heart; if that any person hath either been wounded or stricken of any venomous living thing, and that the patients life be therewith in danger, so that he hath lost the use of his tongue, seeing, and for the most part all his other senses, yet for all that, by taking this his Quintessence, it will recover and raise him as it were out of a dead sleep, from sickness to health, to the great astonishment and admiration of the standers by. They that desire to know the composition of this rare preservative, let them read it in the Author himself, for it is too long and tedious to describe it at this time.

There be besides these compounds, many simple medicines, which being taken inwardly, do perform the same effect, as namely the Thistle, whereupon *Serenus* hath these verses following:

*Cardus & nondum dectis fullonibus aptus,
Ex illo radix tepido potatur in amni.*

That is to say;

*The root of Teasle young, for Fullers yet unfit,
Drunk in warm water, venom out doth spit.*

That Thistle which *Qu. Serenus* here understandeth, is properly that plant which of the *Greeks* is called *Scolymos*. Yet it is taken sometimes for other prickly plants of the same kinde, as for both the *Chamaeleons*, *Dipsacos*, or *Labrum Veneris*, *Spina alba*, *Eryngium*, and some other. But *Dioscorides* attributeth the chiefest vertue against poysons, to the Thistle called *Chamaeleon albus*, and to the Sea-thistle called *Eryngium marinum*, which some call Sea-hul, or Hulver: for in his third book and ninth chapter, entreating of *Chamaeleon albus*, he saith thus; The root of it taken with Wine inwardly, is as good as Treacle against any venom: and in the 21 chapter of the same Book, *Eryngium*, is (saith he) taken to good purpose with some Wine, against the biting of venomous creatures, or any poyson inwardly taken. And the same *Serenus* ascribeth to the same vertue to the Harts curd or rennet, as followeth.

*Cervino ex fetu commixta coagula viuo
Suntantur, quæ res membris agit atra venena.*

In English thus;

*Wine mixt with Rennet taken from a Hart,
So drunk, doth venom from the members part.*

He meaneth a young Hart, being killed in the Dams belly, as *Pliny* affirmeth also the same in his 8. Book and 30. chapter in these words; The chiefest remedy against the biting of Serpents, is made of the Coagulum of a Fawn, kill'd and cut out of the belly of his Dam. Coagulum, is nothing else but that part in the belly which is used to thicken the Milk.

Proderit

Proderit & caulem cum vino haurire sambuci.

Qu. Serenus.

Which may be Englished thus;

*In drink, the powder of an Elder-stalk,
Gainst poison profiteth, as some men talk.*

That vertue which *Serenus* here giveth to the stalk of Dwarf Elder, (for that is meant in this place) the same effect *Dioscorides* attributeth to the root in his fourth Book, and *Pliny* to the leaves. The herb called Betony is excellent against these foresaid affects, and by good reason, for the greatest part of poysons do kill through their excess of coldness, and therefore to overcome and resist them, such means are necessary, by which natural and lively heat is stirred up and quickned; and so the poyson hindered from growing thick together, and from coagulation.

Again, all men do agree, that those medicines are profitable which do extenuate, as all those do which have a property to provoke urine, and Betony is of this quality, and therefore being taken with Wine, it must needs do good in venomous bitings, and that not only in the bitings of Men and Apes, but in Serpents also. Radish also hath the same quality, being taken with Vinegar and Water boiled together, or else outwardly applied, as *Serenus* affirmeth.

*Sive homo, seu similis turpissima bestia nobis
Vulnera dente dedit, virus simul intulit atrum,
Vetonicam ex duro prodest assumere Baccho.*

*Nec non & raphani cortex decocta medetur;
Si trita admorsus fuerit circumlita membris.*

In English thus;

*If Man, or Ape (a filthy beast most like to us)
By biting wound, and therein poyson thrust,
Then Betony in hard Wine steeped long,*

*Or rinde of Radish sod as soft as pap,
Do heal, applyed to the members stong.*

There be certain herbs and simples, as wilde Lettice, Vervin, the root called Rhubarb, Agarick, Oyl of Oliander, and the leaves of the same, the seeds of Peony, with a great number a little before described, that being taken either inwardly or outwardly in juyce or powder, do cure poyson, yea though it be received by hurt from envenomed arrows, shafts, or other warlike engines and weapons: for the *Arabians*, *Indians*, the *Galls* (now termed French-men) and *Scythians*, were wont to poyson their arrows, as *Paulus Orosius* in his third Book testifieth of the *Indians*, where he writeth, how *Alexander* the Great, in his conquering and winning of a certain City, under the government of King *Ambira*, lost the greatest part there of his whole Army with envenomed darts and quarrels. And *Celsus* in his fifth Book saith, that the ancient *Galles* were wont to anoint their arrows with the juyce of white Hellebore, with which they they did great mischief. *Pliny* affirmeth the same to be used of the *Scythian* Nation. The *Scythians* (saith he) do anoint their Arrow-heads with the corrupt, poysonous, and filthy stained dreggy blood of Vipers, and with Mans blood mixed together: so that the wound seemeth to be incurable. And to this alludeth *Quintus Serenus*.

*Cuspide non quisquam, longa neque cade sarisse,
Fulmine non gladii, volucris nec felle sagitta,
Quam cito Vipereo potis est affligier ictu:
Quare aptam dicamus opem, succosque manentes.*

Which may be thus Englished;

*There is no Man with Spear or Launces point,
Sharp edge of Sword, or swift Arrows might,
To kill so soon, as Vipers force doth dint:
Then fit is the aid and means that it acquite.*

There is a certain kinde of people to whom it is naturally given, either by touching or sucking, to cure the wounding of venomous Serpents, called *Phylli*, (a people of *Lybia*) and *Marfi*, people of *Italy*, bordering upon the *Sammites*, and *Aequiculania*, and those that were called by the Ancient Writers *Ophiogenes*, which dwelt about *Hellepont*, as both *Pliny*, *Aelianus*, and *Aeneas Sylvius* do witness.

Callias in his tenth Book of the history which he wrote of *Agathocles* the *Syracusan* saith, that if any man were bitten of a Serpent, if either a *Lybian* by birth, or any *Phyllus*, whose body was accounted venom to Serpents, was either purposely sent for, or came that way by chance, and saw the wound but indifferently, and not very sore tormenting the Patient, that if he did lay but a little of his spittle upon the biting or stroke, that presently the aking and pain would be mitigated. But if he found the sick Patient in great and intolerable anguish and pain, he took this course in his curation, that first he would suck and draw up into his mouth a great deal of water, and first rinse and wash his own mouth therewith, and after this, pouring it all out of his own mouth into a cup, he would give it to the poor wounded person to sup off. Lastly, if the malignity and strength of the venom had crept and spread it self very far and deep into the body, so that there was danger of death, then would he strip himself stark naked, and so lie and spread his body upon

upon the naked body of the sick person, and so by this way of touching, break the malice and quality of the poyson, and give perfect cure to the man. For more confirmation hereof, *Nicander Colophonius*, is sufficient authority, whose verses I will here describe.

*Audivi Libyos Pſylos, quos aspera Syrtis
Serpentumque ferax patria alit populos,
Non idem inflictum diro, morsive venenum*

*Ledere : quin laſis ferre & opem reliquis,
Non vi radicem, proprio ſed corpore juncto.*

Which is in English thus ;

*The people Pſylli bred in Lybia Land
Neer Syrtis, where all Serpents do abound,
Are never ſtung nor bitten by that band*

*Unto their harm, or any bodies wound :
But ſtraight one naked man anothers hurt doth heal,
No roots, but bodies vertue danger doth repeal.*

Some of the *Greeks* have left in writing, that the Idolatrous Priests and Prelates of the God *Vulcan*, that dwelt in *Iſle Lemnos*, had a ſpecial vertue given them to cure thoſe who were wounded by Serpents : whereupon it is ſaid, that *Philoſtetes* being wounded by a Serpent before the Altar of *Apollo*, went thither to be remedied of his hurt. *Cornelius Celfus* ſaith flatly, that the people called *Pſylli* had no ſuch peculiar gift in healing them that were hurt of Serpents, either by ſucking or touching the place, but being boldly adventurous, had preſumed thereby to attempt and do that, which others of leſs courage had no ſtomach to do : for whoſoever durſt be ſo confident as to follow their example, ſhould be himſelf out of danger, and aſſure the other ſafe and free from fear of further hurt.

Galen in his book *De Theriaca ad Piſonem*, manifeſtly ſheweth, that the *Marſi*, who lived in his days, had no ſuch ſpecial quality againſt the poyſon of Serpents, but that with their crafty dealing, and knaviſh tricks, they beguiled the common people. For ſaith he, thoſe Juglers and Deceivers do never hunt Vipers at any convenient time, but long after the prime of the year and Spring, wherein they caſt their ſkins, when as they are weak, and have loſt their ſtrength, and are very faint : then do they take them, and ſo by long uſe and continuance, teach them, and inure themſelves one to another, and bring it ſo to paſs, that they wil feed them with ſtrange and unaccuſtomed meats to their nature ; yea they will permit them to taſt of fleſh, and conſtrain them to be continually gnawing and biting of the ſame, that by their ſo labouring and ſtriving, their poyſon may by little and little be ſpent, and purged out of their bellies. Beſides all this, they give them a kinde of bread made of milk and flour, that by this means the holes in their teeth may be ſtopped : and ſo by this laborious courſe of dieting them, they bring the matter ſo about, that their bitings are very weak, and do ſmall annoyance to any that they ſtrike at. So that the ſeers and lookers on, account it a thing exceeding common reaſon and nature, and blaze it abroad for a miracle.

Matthiolus alſo, a Phyſitian of late days, agreeeth with him in this point, affirming expreſly, that theſe kinde of trumperies and crafty fetches are much put in practice in theſe times, by ſuch bold and impudent Quackſalvers, Mountebanks, and couſeners of plain Countrey people, who dare face it out, lie, ſaign and cog, that they are deſcended from the race and lineage of *Saint Paul*, wherein they ſhew themſelves notorious lyers, &c. Thus far *Matthiolus*.

Serpents do ſometimes creep into the mouths of them that are aſleep, whereupon a certain Poet ſaith ;

Non mihi tunc libeat dorſo jacuiſſe per herbam.

Which may be Engliſhed thus ;

*Then would I not upon the graſs,
Lie on my back where Serpents paſs.*

For if a man ſleep open mouthed, they ſlily convey themſelves in, and winde and roll them round in compaſs, ſo taking up their lodging in the ſtomach, and then is the poor wretched man miſerably and pitifully tormented ; his life is more bitter then death, neither feeleth he any releaſe or mitigation of his pain, unleſs it be by feeding this his unwelcome gueſt in his gueſt-chamber, with good ſtore of milk, and ſuch other meats as Serpents beſt like of. The only remedy againſt this miſchief, is to eat good ſtore of Garlick, as *Erasmus* in his *Dial. De Amicitia* ſaith. *Cardan* ſaith, how that it was reported for a certain, that a Viper entring into a Mans mouth being aſleep and gaping with his mouth, the venomous Worm was expelled only with burning of Leather, and ſo receiving the ſtinking ſume at his mouth, the Viper not enduring it, he eſcaped with life. But of this more in our diſcourſe of the Viper.

A certain man called *Ciffus*, being very devout in the ſervice, and much addicted to the worſhip of the God called *Serapis*, being treacherouſly wound in and intrapped, by the crafty wileneſs of a certain woman, which firſt he loved and afterward married, when by her means he had eaten ſome Serpents egges, he was miſerably vexed, and torn and rent with diſquiet and torment through all his body, ſo that he ſeemed to be in great hazard of preſent death. Whereupon, forthwith repairing and praying heartily to this his God, for his help and deliverance, he received answer, that he muſt go and buy a live Lamprey, and thruſt his hand into the veſſel or place where it was kept and preſerved ; which he forthwith did, and the Lamprey caught faſt hold on his hand, biting hardly, and holding faſt by the teeth : and at length, when ſhe was pulled from her faſt hold, the ſickneſs and grievous torment of his body was plucked away, and he freely delivered from that threatening danger. Thus far *Eliaſus*.

H h h

The

All this medicinal deſcription of Serpents was written by *Tho. Bonham* Doctor in Phyſick.

The Conclusion of this General Discourse of SERPENTS.

HAVING thus discoursed of the medicinal qualities in Serpents, and the remedies which Almighty GOD in nature hath provided against their venom, now for a conclusion, I will add some other natural uses of them, and shut up all in Moralities, and in sundry ways to take them.

Herodotus.
Mela.
Pliny.

Solinus.
Scaliger.
Boemus.

Æneas Syl.
Nicander.
Venetus.
P. Martyr.

Florentinus.

Cælius Rho.
Ælianus.

Constantinus.

Pliny.
Tector.

Plutarch.
Pierius.

There were certain *Amazons*, as *Pierius* noteth, that in their warlike preparations and Arms, did use the skins of Serpents. And to the intent that this may not seem strange, the *Troglodytes* did eat Serpents and Lizards, for they lived in Caves in stead of Houses, and their voyce was not a significant voyce, but a kinde of scritchings, like gnashing. And for these causes, Serpents are very much afraid of any one of this Nation. Likewise certain of the *Candeans* were called *Ophiophagi*, that is, Eaters of Serpents; and one part of the people of *Arabia* eat Snakes. But in *India*, *Ethiopia*, and an Island in the Ocean, found out by *Jambolus*, there are Serpents which are harmless, and their flesh very sweet and pleasant to be eaten: So are there in *Macinum*, a Province of *Asia*. In *Manzæ* in the upper *India*, and *Caraia*, they sell the flesh of Serpents in open Markets. These Serpents are called *Juana*, and the common people are forbidden to eat them, because they are very delicate, even as Pheasants, Partridges and Peacocks are in *France*. Yet is there but one way to dress them, which is, to roul them in Lard, and so to seethe them. For first they bowle them, then wash them and fold them up together round, putting them into a pot no bigger then to receive their quantity; upon them they cast Pepper with water, and so seethe them upon wood and coals that will not smoak. With this Lard there is made a broth sweeter then any Nectar, which they use in many banquets of great account.

But for the taking of Serpents, I will yet add one or two more experiments, wherein the Ancients revenged themselves upon these irreconcilable enemies of Mankind. They did use to set in to the earth a deep pot, whereinto all venomous creatures would gather and hide themselves, then came they suddenly and stopped the mouth of that vessel, whereby they inclosed all that were taken, and so making a great fire, cast the said pot of venomous Serpents into the same, which consumed them all. Otherwise they took a living Serpent, and digged in the earth a deep Well or pit so steep, as nothing at the bottom could climbe up to the top thereof, into this pit they would cast this Serpent, and with her a brand of fire, by means whereof the enclosed Serpent would fall a hissing for her life, at the hearing whereof, her fellows of the same kinde, were thereby easily invited to come at her call to give her relief, (as we have shewed elsewhere) who finding the noise in the bottom of the pit, do slide down of their own accord, whereby they likewise intrap themselves in the same pit of destruction.

But the Juglers or Quack-salvers take them by another course, for they have a staffe slit at one end like a pair of tongs, those stand open by a pin, now when they see a Serpent, Viper, Adder or Snake, they set them upon the neck neer the head, and pulling forth the pin, the Serpent is inevitably taken, and by them loosed into a prepared vessel, in which they keep her, and give her meat. It is reported, that if a Serpent be stricken with a Reed, she standeth still at the first blow, as if she were astonished, and so gathereth herself together; but if she be so stricken the second or third time, as one delivered from her astonishment and fear, she recollecteth her wits and strength, and slideth away. The like observation unto this, is that of the Ancients, that a Serpent cannot be drawn out of her den by the right hand, but by the left; for they say, if one lay hold on her tail by the right hand, she will either slide farther into the earth from him, or else suffer herself to be pulled in pieces, never turning again, and therefore saith mine Author, *Non cedit trahenti, sed elabitur fugiens, aut certe abruptitur*, she yeeldeth not to him that draweth her, but slideth away, flying from him, or else suffereth herself to be pulled in pieces in the combate.

The sundry Hieroglyphicks, statues, figures, Images, and other moral observations about Serpents, are next here to be expressed, which the Ancients in their Temples, Shields, Banners, Theatres, and publique places had erected for their honours and dignity. And first of all in the Temple of *Delphos*, near the Oracle, there was placed the Serpent which provoked *Apollo* to fight with him, wherein it was by him slain. And the *Hermopolitans*, did reserve the Image of *Typhon*, in a Sea-horse, whereupon sat fighting a Hawk and a Serpent: by the Sea-horse they signified the Monster *Typhon*, by the other beasts, as namely the Hawk and the Serpent, how by this principality and government, which he had gotten by violence, he troubled both himself and others.

Hercules had in his shield certain Serpents heads, pictured with these verses.

*Bis sena hic videas, stridentibus effera flammis,
Colla venenato vultu maculosa draconum.
Tum magis offenso spirantia gutture virum,
Quam magis Alcides effuso sanguine pugnât.*

Which may be Englished thus;

*Of Dragons heads twice six here maist thou see,
Raging amongst the flames with poysoned spotted face:
Casting most venom forth when they enraged be,
As when Alcides saw his blood distill apace.*

And

And so *Virgil* saith of *Aventinus*.

*Clypeoque insigne parentum
Centum angues, cinctamque gerit Serpentibus Hydram,*

That is to say,

*His shield an hundred Snakes, his Fathers crest,
An Hydra in their compass is entest.*

Oscus which reigned among the *Tyrrhenians*, gave in his Standard and Coat of Arms a Serpent. *Pierius*.
Now the people *Osci* (from whom it may be he was sprung and derived) lived in *Campania* in *Italy*, as we have shewed already.

In ancient time we read, that when hostility began to be compounded, they had Heralds and Embassadors of Peace, which they called *Caduceatores*, which carryed upright a certain Rod or Staffe called *Caduceus*; this Rod was very straight, and at the either side were artificially joyned two Serpents figures, winding and crooking into each other as the manner of Serpents is. This Rod was so sacred, that it was a great offence to violate or offer any injury unto it: for by the straight Rod, was signified Perfect and Upright Reason or Understanding; by the two crooked Serpents at either side thereof, was figured the two Armies invading and assailing the Upright understanding, yet not prevailing: For this passed through and betwixt them without harm, by truce and entreaties of Peace. This Rod was therefore consecrated to *Mercury*, the tails of the Serpents reaching down to the handle or half of the Rod, where they were adorned with wings. *Alciatus* made these Emblematical verses upon the *Caduceus*. *Suidas*.

*Anguibus implicitis, geminus Caduceus alis,
Inter Amaltheae cornua rectus adest.
Pollentes sic mente viros, fandique peritos
Judicat, at rarum copia multa beet.*

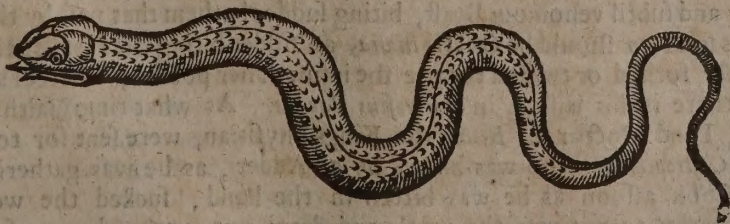
In English thus;

*Twixt Ceres horns the Rod of Peace doth stand
Upright with winding Snakes, and double-winged tails,
To shew that mindes and tongues with Learnings brand,
Are blest with plenty in all wordly vails.*

But having thus entred into the Hieroglyphical Emblems, if I should say so much as I finde made ready, and squared for the architecture of this discourse, I might lose my self in a voluminous world of matter, therefore I will but give the Reader a taste hereof. By the Serpent in holy Writ, are many observative significations; and first, that the Devil himself, which is *Malus Deus mali Mundi*, an evil God of an evil World, should be teamed and expressed by a Serpent. The cause saith *Pierius*, is *linguae motatio*, the continual and never ceasing motion of a Serpents tongue: and so the continual and ever-working perswasions of Diabolical tentations, and a true mixture and limb of this old Serpent, speaketh otherwise with his tongue, then he thinketh with his heart. Therefore it is also said, that a natural Serpent hath a cloven or twisted tongue.

Clemens saith truly, that Serpents do also signifie Men given over to sins, and fraudulent impostures or malices, *Onos hybristes ho akotaios, lukos agrios ho pleonektikos, kai ophis ho apatroon*, that is, There is an insolent and an intemperate Ass, there is a raging Wolf which is covetous, and there is a Serpent which is an Impostor and fraudulent. The same learned man saith, that Riches are like to a Serpent: For as when an ignorant Man thinketh to take a Serpent without harm by the tail, she turneth back again and biteth him; but if he take her by the neck, she cannot execute any part of her malice: even so when a wise Man hath the managing of riches, by vertue of his discretion he so charmeth them, that there is not in them any harm at all: but the foolish Man is mortally stung by his imprudent possession and dispensation of them.

Of the ADDER.



IT falleth out in the particular Discourse of Serpents, that I expresse the most known Serpent to us in *England*, in the first place, according to alphabetical order, that is, the Adder. For although I am not ignorant, that there be which write it *Nadere*, of *Natrix*, which signifieth a water Snake, yet I cannot consent unto them so readily, as to depart from the more vulgar received word

of a whole Nation, because of some likelihood in the derivation from the *Latine*: For whereas *Nadere* may seem not improperly to be derived of *Natrix*, and *Natrix* of *Natando*, that is, swimming in the water, the first conjectural derivation is destroyed by the latter, because this Serpent whereof we now intreat, haunteth not the waters, except for drink in her time of thirst, and therefore I mislike the writing of *Nadere* for *Adder*: and rather take that word to signifie a Land Snake. And yet if there be any good argument of derivation of *English* from *Latine*, I would not have the Reader think, but that the *Adder* may as well be derived *à terra*, from the earth which it useth, or of *ater*, black, which is the colour that it beareth, or from *atrox*, fierce, (for there is no Serpent of that quantity, more fierce, angry, or hurtful,) as well as *Nadere* from *Natrix*.

Isidorus.

The *Latines* do express this kinde of Serpent by the word *Coluber*, whereof some give sundry reasons, either because *colit umbras*, it hanteth and liveth in hedges and shadowy places, or else *à lubricis tractibus*, of his winding pace or path. *Gelenius* deriveth it of the *Greek* word *Kolobouros*, which signifieth wanting a tail, because the Snakes which are about houses, are sometimes found without tails, which have been strook off by men: but this opinion hath no reason for the *Adder*, which is not domestical. Indeed I confesse that *Pliny* useth *Coluber* for a general word for Serpents, when he saith *Coluber in aqua vivens*, which deceived *Theophrastus* and *Gaza*, applying it to the water Serpent. And so *Erasmus* and others, translate *Ophis coluber*, that is, the general *Greek* word for a Serpent, an *Adder*. There is also *Colubra*, as in *Lucilius*, *Varro*, & *Nonius Marcellinus* appeareth; whereunto agree *Horace*, *Virgil*, and *Cornelius Celsus*. The *Italians* call this Serpent *Lo Scorzona*, *Scorson*, *Colubra*, *la Scorzona*, *la Scorsona*. The *French*, *Colenure*; the *Spaniards*, *Culebra*, and at this day the *Grecians*, *Nerophis*. And thus much for the name; except I may adde these verses of *Virgil* in his *Georgicks*.

*Aut tecto assuetus Coluber succedere & umbrae
Pestis acerba boum, pecorique aspergere virus
Fovet humum. Cape saxa manu, cape robora pastor.
Tollentemque minas, & sibi colla tumentem*

*Deiçe, jamque fuga tumidum caput abdidit altè
Cum medii nexu, extremæque agmina caudæ
Solvuntur, turdosque trahit sinus ultimus orbes.*

In English thus;

*Or when the Adder using house or shade
Bred in the earth, the bane of Sheep and Neat,
Then shepherd take both stone in hand and blade,
To quash his swelling neck and hissing threat.*

*Or when his fearful head he puts full deep in earth
To fly thy wrath, him sunder in the midst,
Or cut his tail, if no part else appeareth,
For that will stay his pace, while on't thou treadest.*

This is usual to call a Water-adder, a House-adder, a Land-snake, and such other, but catachrestically confounding one kinde with another. And thus much for the name of this Serpent. The parts differ not from the general description before recited, it is long like an Eele, and hath many Epithets, as *virides colubri*, green Adders, long, rough, venomous, divers coloured, swelling, sliding, winding, blew, terrible, secret, hurtful, *Medusean*, *Cynipian*, *Gorgonean*, *Lybissine*, biting, spotted, wreathing, black, bending, heavy, scaly, and divers such other, as the Grammarians have observed. But concerning the colour hereof, it is most commonly black on the back, sometimes greenish and yellowish. The scales of it are more sharp then of the Snake, and therefore the *Egyptians* were wont to say of the *Thebane* Adders, that they had a certain appearance of horns upon them, as we shall shew more at large in the story of *Cerastes*, or the horned Serpent.

Victorius speaking of the great worms which are bred in Mens bellies, doth call them *Cecæ Colubras*, blinde Adders; but otherwise, the Adder which is proper to the earth, is not blinde, but seeth as sharply as any other Serpent either by day or by night. They are hotter then the Snakes, and therefore live more in the shadows, and lye for the most part round, folded up together like a rope, as the Poet noteth saying;

*Hirtus & ut coluber, nodofo gramine tectus
Ventre cubat flexo, semper collectus in orbem.*

In English thus;

*As the rough Adder in knotty grass is covered,
Lyeth on her belly, and round in circle gathered.*

They are a crafty and subtil venomous Beast, biting suddenly them that pass by them, whereupon *Jacob* said that his son *Dan* should be *Coluber in via*, an Adder biting the Horse-heels. When the hath bitten, with her forked or twisted tongue she infuseth her poyson, whereof and the remedy serving thereunto, there is this History in *Ambrosius Pareus*. At what time (saith he) *Charles* the ninth lay at *Melines*, I and Doctor *Le Feure* the Kings Physitian, were sent for to cure a certain Cook of the Lady *Castropersee*, who was bitten by an Adder, as he was gathering wilde Hops in a hedge. The Cook assoon as he was bitten in the hand, sucked the wound with his mouth, thinking thereby to mitigate the pain, and draw out again the poyson; but assoon as his tongue touched the wound, presently it so swelled that he could not speak: and besides, his arm or shoulder swelled into a high bunch or tumour, which did put him unto painful torments, insomuch that he swooned twice in our presence; his face and colour changed as though he would presently die: Whereat we all despaired to cure him, yet did not forsake him, nor left to try some

some means to ease his torments. Then we washed his tongue with Triacle, mixed with an equal proportion of white Wine and *Aqua vite*; then also I caused the arm to be scarified all over, and launced the place where the Adder had bitten him, out of which flowed abundance of corrupt matterly blood. Then we washed the wound with Triacle and Mithridate, in *Aqua vite*; so we caused him to be laid into warm bed, there to sweat, and commanded to keep him awake, which was done accordingly; and so the next day the swelling was abated, and the malignant symptoms were all evacuated: so we gave order to keep the wound or launced place open, and afterward the Cook began to be well again. This one example in stead of many, I thought good to insert into this place, that hereby the general cure may be learned and followed.

It agreeth with all other Serpents in the changing or putting off the skin; for after that by fasting it hath made his flesh low and abated, then by sliding through a narrow passage, whereof *Virgil* thus writeth.

*Qualis ubi in lucem coluber, mala gramina passus,
Lubrica convolvit sublato pectore terga
Frigida sub terra, tumidum quem bruma tegebat:*

*Ardens ad solem & linguis micat orat trifurcis;
Nunc positus novus exuviiis, nitidusque juvena.*

Which may be Englished thus:

*Even as the Adder in the Spring ill fed and lean
Moveth her winding limbs, holding up her breast,
Whom Winters cold whites hid earth made swell,*

*In Sun shine with her treble tongue exprest
Doth lick and make to shine her skin, neat youth
Reneweth, and casts old coat, for heat ensueth.*

S. Jerom saith, that when the Adder is thirsty and goeth to drink, she first of all at the water side casteth up her venom, lest that by drinking it descend into her bowels, and so destroy herself, but after that she hath drunk, she licketh it up again; even as a Souldier re-armed after he was disarmed. The voice of this Serpent is hissing, although it be very seldom heard. And it is said, that when *Cræsus* undertook to wage war with *Cyrus*, the Suburbs of *Sardis* were all filled with Adders, which were devoured afterward by Horses in the pastures. Whereat the King and people were not a little moved: But the Priests, after consultation with the Oracle, told them that it signified, how strangers should devour the people of that City; because that Adders were bred in those coasts, therefore they took them to signifie natural Inhabitants, and because Horses came from other Countries, therefore strangers, (as *Cyrus* and his Souldiers) should be thereby signified. And this is to be noted, that the enemies of this Serpent, are the same that are common to other, and the Hart above all other beasts of the earth. Yet this Serpent (saith *S. Ambrose*) will kill a Lion and run away from a Hart.

Herodotus.

The Medicines arising out of this Beast, are briefly these; The water wherein an Adder is preserved alive, is a remedy against the poyson of a Toad: Also Adders or Vipers included in a pot with the scrapings of Vines, and therein burnt to ashes, do help the Wens or Kings-evill. And *Pliny* also affirmeth, that if a Man which hunteth Crocodils, bear about him any part of the fat of an Adder, or the gall mixed with the herb *Potamigon*, he cannot be hurt by that Beast.

Serpents and Adders, especially deaf Adders, signifie unrepentant wicked men, and also discord, as *Virgil* the Poet describeth it, when *Aleto* sent a Serpent, Snake or Adder, to move contention in the family of *Amata*. *Libro 7. Æneid.* And thus much for the Adder.

Of the AMMODYTE.

This Serpent I call after the Greek name, *Ammodytes*, an *Ammodyte*. It is also found to be called *Anmodyta*, and *Cenchrias*, or rather *Centrias*, or *Centrites*, because of the hardness of their tails, which are also cloven on the upper side. The *Italians* call it *Aspido del corno*, because it hath upon the upper chap a hard Wart like a horn. The head of this Serpent is longer and greater then a Vipers head, and her chaps wider; besides the late expressed difference upon the upper lip: and yet it may well be tearmed a kinde of Viper. It is *Immanis fera*, a fierce wilde Beast, in length not above a cubit, having divers black spots upon the skin, and certain appearances of strakes or small lines upon the back. The colour of the other parts is ever like the sand wherein it keepeth and maketh abode, according to these verses of *Lucan*.

*Olaus Mag.
Avicenna.*

*Concolor exuviiis, atque indiscretus arenis
Ammodytes.*

In English thus;

The Ammodyte, indiscreet on the Land,

Doth hold the colour of the burning sand.

The Countries most of all annoyed with these Serpents, are *Lybia*, *Italy*, and *Illyria*, especially about *Gortinium*, and the Mountains of *Lampidia*. Their harms are not inferiour to the stinging and poyson of Asps, for *Matthiæus* writeth, that he hath known some to die thereof within three hours after the wound received. And if they do not die within short time, then doth the blood issue forth in abundant manner out of the hurt, and the wound swelleth. Afterward, all is turned into

matter, and then followeth dulness in the head, and distraction in the minde; they live long which endure it three days, and it was never known that any lived above seven days: this also being observed, that those that be hurt by a female do die soonest. For together with their biting, they infuse a vehement pain, which causeth swelling, and the sore to run.

I finde the cure hereof in *Aetius* to be thus, first of all Triacle must be given to the sick person to drink, and also laid upon the wound, also drawing or attractive Plaisters, and such Poulteffes which are fit for running Ulcers. But first before the Plaisters, scarifie all the places about the hurt, and binde the upper parts hard, then launce the sore a little with a Pen-knife, and let him drink sweet water with Rungwort, Gourds, *Castoreum*, and *Cassia*. *Avicen* prescribeth in the cure of these Serpents venom *Castoreum*, Cinamon, the root of Centory, of each two ounces with Wine, and the root of long Hartwort, of *Assosier*, the juyce of the root *Gentian*. And for emplaister, Hony sod and dried, and so pounded, the roots of Pomgranates, and Centory, the seed of Flax, and Lettuce, and wilde Rue: And so I conclude with Doctor *Gesner*, *Percussus ab Ammodyte festinet ad remedium, sine quo nemo affugere*, He which is hurt by an *Ammodyte*, let him make hast for a remedy, without which never Man escaped death.

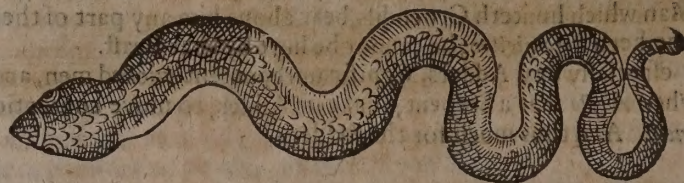
Of the ARGES and ARGOLÆ.

Galen.
Hippocrates.

There is mention made in *Galen* and *Hippocrates*, of a Serpent called *Arges*: Now *Arges* signifieth in Greek white, swift, idle, ill mannered: of this Serpent *Hippocrates* telleth this story. There was (saith he) a young man drunk, which lay asleep upon his back in a certain house, gaping: Into this Mans mouth entered a Serpent called *Argos*, the young Man perceiving it in his mouth, strived to speak and cry, but could not, and so suddenly gnawing his teeth, devoured and swallowed down the Serpent: After which he was put to intolerable pains, his hands stretching and quivering like as a Mans that is hanged or strangled, and in this sort he cast himself up and down and dyed. It seemeth therefore that this Serpent hath his name from the sudden destruction he bringeth to the creatures it smiteth, and therefore in ancient time we read that *Mercury* was called *Argiphon*, for killing of Serpents.

The *Argole* are only mentioned by *Suidas*, for he saith, that *Alexander* brought them to *Alexandria* from *Argos*, and cast them into the River to expel and devour the *Aspes*: where they continued a long time, till the bones of the Prophet *Jeremy* were brought out of *Egypt* unto *Alexandria*, which slew them, (as the same Author writeth:) And thus much of these two kinds of Serpents.

OF ASPES.



IN Hebrew as appeareth, Deut. 32. the Asp is called *Peihen*, in Psal. 58. *Akschub*, in Isa. 59. & Jer. 8. *Zipheoni*, an Asp or a Cockatrice, worse then a Serpent. The *Arabians*, *Hafos*, and *Hafos*; the *Greeks*, *Aspis*; the *Italians*, *Aspe*, and *Aspide*: the *Spaniards*, *Bivora*; the *French*, *Un aspic*; the *Germans*, *Ein selang gemant*; and the *Latines*, *Aspis*. About the notation or derivation of this word, there is some difference among Writers. *Aristophanes* deriveth it from *Alpha*, an intensive Particle, and *Spizo*, which signifieth to extend; either by reason of his sharp shrill hissing, or for the length of his body. Others derive *Aspis* from *Hias*, which signifieth venom or poyson, and therefore saith the Scripture; *The poyson of Aspis*, because that is a predominant poyson. The *Latines* call it *Aspis*, *quod venenum aspergit mor su*, because it sprinkleth abroad his poyson when it biteth. Besides we read of *Aspis* a Buckler, an Island in the *Lycian Sea*, a Mountain in *Africk*, and there is a fashion of camping Souldiers in the field called *Aspides*.

The

The Epithets declaring the nature of this pestiferous Serpent, are *luchetia*, rejoycing in poyson, *Elikessa*, winding, *Lichmeres*, putting out the tongue, *Smerdalee*, fearfull, *Phoinessa* cruelly killing. Likewise in *Latine*, dry, sleeping, drousie, deadly, swelling, and *Aspis Pharia*, a Pharian Asp, so called of the Island *Pharus*, where they abound. It is said that the Kings of *Egypt* did wear the Pictures of *Cal. Rhod.* Asps in their Crowns; whereby they signified the invincible power of principality in this Creature, whose wounds cannot easily be cured: And the Priests of *Egypt* and *Aethiopia* did likewise wear very long Caps, having toward their top a thing like a Navel, about which are the forms of winding Asps, to signifie to the people, that those which resist GOD and Kings, shall perish by irresistible violence. Likewise by an Asp stopping his ear, was figured and understood a Rebel, obeying no lawes or degrees of the Higher power: But let us leave this discourse of moralities, and come neerer to the naturall description of Asps. There are many kindes of Asps after the *Egyptian* division, for one kinde is called *Aspis sicca*, a dry Asp. This is the longest of all other kindes, and it hath eyes flaming like fire, or burning coals; another kinde is called *Asilus*, which doth not only kill by biting, but also with spitting, which it sendeth forth while it setteth his teeth hard together, and lifteth up the head. Another kinde is called *Irundo*, because of the similitude it keepeth with Swallows, for on the back it is black, and on the belly white, like as is a Swallow. We read also in *Albertus* of *Aspis Hipnalis*, and *Hippupex*, but it may be that both these names signifie but one kinde. This *Hypnale* killeth by sleeping, for after that the wound is given, the Patient falleth into a deep and sweet sleep, wherein it dyeth: and therefore *Leoniceus* saith; *Ulam fuisse, ex cuius veneno sibi Cleopatram suam mortem conscivit*, that it was the same which *Cleopatra* bought to bring upon her self a sweet and easie death. There is also an Asp called *Athas*, which is of divers colours: But I do consider that all the kindes may well be reduced to three, that is, *Ptyas*, *Chersia*, and *Chelidonia*; *Ptyas* hurteth by poysoning mens eyes, by spitting forth venom, *Chersia* liveth on the land, and *Chelidonia* in the waters.

The Asp is a small Serpent, like to a land Snake, but yet of a broader back, and except in this differeth not much from the Snake, their necks swell above measure, and if they hurt in that passion, there can be no remedy, for the stroak of their eyes are exceeding red and flaming, and there are two pieces of flesh like a hard skin which grow out of their foreheads, according to these Verses of *Nicander*;

*Præterea geminae calli instar fronte caruncle
Herent, sanguinea scintillant lumina flammis.*

That is to say;

*As hard as Brawn two bunches in their face
Do grow, and flaming bloody eyes their grace.*

And the dry Asp, so called because it liveth in mid-lands, farre from any water, hath a vehement strong sight, and these eyes both in one and other are placed in the Temples of their head. Their teeth are exceeding long, and grow out of their mouth like a Boars, and through two of the longest are little hollowes, out of which he expresth his poyson: They are also covered with thin and tender skins, which slide up when the Serpent biteth, and so suffer the poyson to come out of the holes, afterward they return to their place again. Of all which thus writeth *Nicander*;

*Quatuor huic intra Maxilla concava dentes,
Radices fixere suas, quas juncta quibusdam
Pelliculis tunica obducit, triste unde venenum
Effundit, si forte sua se appropinquet hosti.*

In English thus;

*Within the hollow of their cheeks fiery teeth are seen
Fast rooted, which a coat of skin doth joyn and over-bide,
From whence sad venom issueth forth when she is keen,
If that her so she chance to touch as she doth glide.*

The scales of the Asp are hard and dry, and red, above all other venomous Beasts, and by reason of her exceeding drought, she is also accounted deaf. About their quantity here is some difference among Writers: For *Ælianus* saith, that they have been found of two cubits length, and their other parts answerable: Again, the *Egyptians* affirm them to be four cubits long: but both these may stand together, for if *Ælianus* say true, then the *Egyptians* are not deceived, because the greater number containeth the lesser. The Asp *Ptyas* is about two cubits long: the *Chersian* Asps of the earth, grow to the length of five cubits; but the *Chelidonian* not above one, and this is noted, that the shorter Asp killeth soonest, and the long more slowly: one being a pace, and another a fathom in length. *Nicander* writeth thus;

*Tam proceram extensa querunt quam brachia duci,
Tantaque crassities est, quantum missile telum,
Quod faciens hastas dacta faber excolit arte.*

Which

Which may be thus Englished;

As wide as arms in force out-stretched,

So is the Asp in length,

And broad even as a casting Dart,

Made by a wise Smiths strength.

*Actius.
Olau.*

The colour of Asps is also various and divers, for the *Irundo* Asp, that is, the *Chelidonian*, resembleth the Swallow; the *Ptyas* or spitting Asp resembleth an Ash colour, flaming like Gold, and somewhat greenish: the *Chersæan* Asp of an Ash-colour or green, but this later is more rare, and *Pierius* saith, that he saw a yellow Asp neer *Bellari*: Of these colours writeth *Nicander*:

*Squalidus interdum color albet, sepe virenti,
Cum maculis sepe est cineres imitante figura,
Nonnunquam ardenti veluti succenditur igne,*

Thus overtherwise;

*Their colour whitish pale, and sometime lively green,
And spots which do the Ash resemble,
Some fiery red: in Æthiop black Asps are seen,*

*Idque nigra Æthiopum sub terra, quale refusus
Nilus sepe lutum, vicinum in Nerea volvit.*

*And some again like to Nerean mud,
Cast up by flowing of the Nilus flood,*

Am. Paræus.

Bellorinus.

The Countreys which breed Asps, are not only the Regions of *Africk*, and the Confines of *Nilus*, but also in the Northern parts of the World (as writeth *Olau Magnus*) are many Asps found: like as there are many other Serpents found, although their venom or poyson be much more weak then in *Africa*; yet he saith, that their poyson will kill a man within three or four hours without remedy. In *Spain* also there are Asps, but none in *France*, although the common people do style a certain creeping thing by that name. *Lucan* thinketh that the Originall of all came from *Africa*, and therefore concludeth, that Merchants for gain have transported them into *Europe*, saying;

*Ipsa coloris egest, gelidum non transit in orbem
Sponte sua, Niloque tenuis metitur arenas.*

Sed quis erit nobis lucri pudor? Inde petuntur,

Huc Lybicae mortes & fecimus Aspidæ merces.

In English thus;

*The Asp into cold Regions not willingly doth go,
But neer the banks of Nilus warm, doth play upon the sands.*

Oh what a frame, of wicked gain must we then undergo,

Which Lybian deaths and Aspidish wares have brought into our lands?

Ælianus.

Gillius.

Their abode is for the most part in dryest soyls, except the *Chelidonian* or Water Asp, which live in the banks of *Nilus* all the year long, as in a house and safe Castle, but when they perceive that the water will overflow, they forsake the banks sides, and for safeguard of their lives, betake them to the Mountains. Sometimes also they will ascend and climbe trees: as appeareth by an Epigram of *Anthologius*. It is a horrible, fearfull, and terrible Serpent, going slowly, having a weak sight, alwayes sleepy and drowsie, but a shrill and quick sense of hearing, whereby she is warned and advertised of all noyse, which when she heareth, presently she gathereth her self round into a circle and in the midst lifteth up her terrible head: Wherein a man may note the gracious providence of Almighty GOD, which hath given as many remedies against evil, as there are evils in the World. For the dulnesse of this Serpents sight, and slownesse of her pace, doth keep her from many mischiefs. These properties are thus expressed by *Nicander*;

*Formidabile cui corpus, tardumque volumen,
Quandoquidem transversa via est prolixæque ventris
Spira, veteris nique vivere videntur ocelli.*

At simul ac facili sorte abservaverit aure

*Vel minimum strepitum, segnes è corpore somnos
Excitat, & ceterem sinuat mox aspera traxum,*

Horrendumque caput, porrectaque pectora tollit.

In English thus;

This feared Asp hath slow and winding pace,

When as her way on belly she doth traverse,

Her eyes sprunk in her head winking, appear in face,

Till that some noise her watchfull ear doth ravish,

Then sleep shak'd off, round is her body gathered,

With dreadfull head, on mounted neck up lifted.

The voice of the Asp is hissing, like all other Serpents, and seldome is it heard to utter any voyce or sound at all, except when she is endangered, or ready to set upon her enemy. Whereupon saith *Nicander*;

Grave sibilat ipsa

Bestia, dum certam vomit ira conossa mortem.

In English thus;

This beast doth hisse, with great and lowdest breath,

When in her mood she threatneth certain death.

That

That place of *David*, Psalm. 58. which is vulgarly read a death Adder, is more truly translated *A deaf Asp*, which when she is enchanted, to avoid the voyce of the Charmer, she stoppeth one of her ears with her tail, and the other she holdeth hard to the earth: And of this incantation thus writeth *Vincentius Beduacensis*. *Virtute quorundam verborum incantatur Aspis, ne veneno interimat, vel ut quidam dicunt ut quieta capi possit, & gemma de fronte ejus auferri, quæ naturæ aliter in eo nascitur*, that is to say, The Asp is enchanted by vertue of certain words, so as she cannot kill with her poyson, or as some say, be taken quietly without resistance, and so the Gem or pretious Stone be taken out of her forehead, which naturally groweth therein. And from the words of the Psalm aforesaid, not only the certain and effectual use of charming is gathered by *Pierius*, but also by many justified in the case of Serpents. Whereof I have already given mine opinion in the former general Treatise, unto the which I will only adde thus much in conclusion, which I have found in a certain unnamed Author; *Dæmones discunt cum verbis ad Serpentes, & infestione interiori hoc faciunt, ut Serpentes ad nutum eorum moveantur, ac sine læsione tractabiles exhibeantur*: Which is thus much in effect; Devils run up and down with words of enchantment to Serpents, and by an inward or secret infection, they bring to pass that the Serpents dispose themselves after their pleasure, and so are handled without all harm. And indeed, that it may appear to be manifest, that this incantation of Serpents is from the Devil, and not from God, this only may suffice any reasonable man: because the Psalmist plainly expresseth, that the Serpent shifteth it off, and avoideth *Peritissimas mustantium incantationes*, the most skilful Charmers. Now if it came from the irresistible power of Almighty God, it should pass the resistance of them or Devils; but being a fallacy of the Devil, the Serpent (wiser in this point then Men that believe it) easily turneth tail against it: and in this thing we may learn to be wise as Serpents, against the enchanting temptation of the Devil or Men, which would beguile us with shadows of words and promises of no valuable pleasures.

If we may believe *Pliny*, *Ælianus*, and *Philarchus*, the Egyptians lived familiarly with Asps, and with continued kindeness wan them to be tame. For indeed among other parts of their savage beastliness, they worshipped Asps even as household Gods, by means whereof the subtil Serpent grew to a sensible conceit of his own honour and freedom, and therefore would walk up and down and play with their children, doing no harm, except they were wronged, and would come and lick meat from the table, when they were called by a certain significant noise, made by knocking of the fingers. For the guests after their dinner, would mix together Hony, Wine, and Meal, and then give the sign, at the hearing whereof they would all of them come forth of their holes; and creeping up, or lifting their heads to the table, leaving their lower parts on the ground, there licked they the said prepared meat, in great temperance by little and little without any ravening, and then afterward departed when they were filled. And so great is the reverence they bear to Asps, that if any in the house have need to rise in the night time out of their beds, they first of all give out the sign or token, lest they should harm the Asp, and so provoke it against them: at the hearing whereof, all the Asps get them to their holes and lodgings, till the person stirring be laid again in his bed.

The holy kinde of Asps they call *Thermusis*, and this is used and fed in all their Temples of *Isis* with the fat of Oxen or Kine. Once in the year they crown with them the Image of *Isis*, and they say that this kinde is not an enemy to Men, except to such as are very evill, whereupon it is death to kill one of them willingly.

It is reported of a certain Gardiner making a ditch or trench in his Vineyard, by chance and ignorantly, he set his spade upon one of these *Thermusis* Asps, and so cut it asunder, and when he turned up the earth, he found the hinder part dead, and the fore-part bleeding and stirring: at which sight his superstitious heart overcome with a vain fear, became so passionately distressed, that he fell into a vehement and lamentable frenzy. So that all the day time he was not his own man, and in the night, in his mad fits he leapt out of his bed, crying out with pitiful and eager complaint, that the Asp did bite him, the Asp did wound him, and that he saw the picture of the said Asp (by him formerly slain) following him, and tearing his flesh, and therefore most instantly craved help against it, saying still he perished by it, he was mortally wounded. And when he had now (saith *Ælianus*) continued a while in this superstitious fury and disease of the minde, his kindred and acquaintance brought him into the house of *Serapis*, making request unto that fained God to remove out of his sight that spectre and apparition; and so he was released, cured and restored to his right minde.

This kinde of Asp they also say is immortal and never dyeth, and besides it is a revenger of sacrilege, as may appear by such another History in the same place. There was a certain *Indian* Peacock sent to the King of *Egypt*, which for the goodly proportion and feature thereof, the King out of his devotion consecrated to *Jupiter*, and was kept in the Temple. Now there was (saith he) a certain young Man which set more by his belly, then by his God, which fell into a great longing for to eat of the said Peacock: and therefore to attain his appetite, he bribed one of the Officers of the Temple with a good sum of Money to steal the said Peacock, and bring it to him alive or dead. The covetous-wretch enraged with the desire of the Money, sought his opportunity to steal away the Peacock, and one day came to the place where he thought and knew it was kept, but when he came, he saw nothing but an Asp in the place thereof, and so in great fear leaped back to save his life, and afterward disclosed the whole matter. Thus far *Ælianus*.

The domestical Asps understand right and wrong, and therefore *Philarchus* telleth a story of such an Asp, which was a female, and had young ones: in her absence one of her young ones killed a

childe

Ælianus.

childe in the House : When the old one came again according to her custom to seek her meat, the killed childe was laid forth, and so she understood the harm : Then went she and killed that young one, and never more appeared in that house. It is also reported, that there was an Asp that fell in love with a little Boy that kept Geese in the Province of Egypt, called *Herculia*, whose love to the said Boy was so fervent, that the Male of the said Asp grew jealous thereof. Whereupon one day as he lay asleep, set upon him to kill him, but the other seeing the danger of her love, awaked and delivered him.

There is much and often mention made of Asps in holy Scripture, beside the forenamed place, Psal. 58. as in Esa. 59. the Jews are compared to Asps, and their labours to Spiders webs. And Esa. 11. *The sucking childe shall play upon the hole of the Asp.* Whereupon a learned man thus writeth ; *Quicunq; ex hominibus occulto veneno ad nocendum referti sunt, sub regno Christi mutato ingenio fore vel pueris innocios;* that is, whosoever by secret poyson of nature are apt to do harm to other, in the Kingdom of Christ their nature shall be so changed, that they shall not harm sucklings, not able to discover them. Great is the subtilty and fore-knowledge of Asps, as may appear by that in Psal. 58. against the Charmers voyce. As also it is strange, that all the Asps of *Nilus* do thirty days before the flood remove themselves and their young ones into the Mountains, and this is done yearly, once at the least, if not more often.

Pliny.

Suidas.

They sort themselves by couples, and do live as it were in marriage, Male and Female, so that their sense, affection, and compassion, is one and the same : for if it happen that one of them be killed, they follow the person eagerly, and will finde him out, even in the midst of many of his fellows : that is, if the killer be a beast, they will know him among beasts of the same kinde : and if he be a man, they will also finde him out among men : and if he be let alone, he will not among thousands harm any but he : breaking through all difficulties (except water,) and is hindred by nothing else, except by swift flying away. We have shewed already, how the *Phyllians* in *Asia* cast their children newly born to Serpents, because if they be of the right seed and kindred to their Father, no Serpent will hurt them, but if they be Bastards of another race, the Serpents devour them : these Serpents are to be understood to be Asps. Asps also we have shewed were destroyed by the *Argols*, which *Alexander* brought from *Argos* to *Alexandria*, and therefore those are to be reckoned their enemies. Shadows do also scare away & terrifie Asps, as *Seneca* writeth. But there is not more mortal hatred or deadly war betwixt any, then betwixt the *Ichneumon* and the Asp. When the *Ichneumon* hath espyed an Asp, she first goeth and calleth her fellows to help her, then they all before they enter fight do wallow their bodies in slime, or wet themselves, and then wallow in the sand, so harnessing, and as it were arming their skins against the teeth of their enemy : and so when they finde themselves strong enough, they set upon her, bristling up their tails first of all, and turning to the Serpent till the Asp bite at them, and then sodainly ere the Asp can recover, with singular celerity they flie to her chaps and tear her in pieces, but the victory of this combate resteth in anticipation, for if the Asp first bite the *Ichneumon*, then is he overcome, but if the *Ichneumon* first lay hold on the Asp, then is the Asp overcome. This hatred and contention is thus described by *Nicander* ;

*Solus eam potis est Ichneumon vincere pestem,
Cum grave cautus ei bellum parat, editaq; ova,
Que fovet in multorum hominum insuperabile lethum,
Omnia fracta terit, mordaceq; dente laceffit.*

That is to say ;

*Ichneumon only is of strength, that pest to overquell,
Gainst whom in wary wise his war he doth prepare,
Her egges, a deadly death to many men, in sand he doth out smell,
To break them all within his teeth, this nimble beast doth dare.*

Pliny, *Cardan*, and *Constantine* affirm, that the herb *Arum*, and the root of *Winterberry*, do so astonish Asps, that their presence layeth them in a deadly sleep : and thus much of their concord with other creatures.

Galen writeth, that the *Marsians* do eat Asps without all harm, although as *Mercurial* saith, their whole flesh and body is so venomous, and so repleat with poyson, that it never entereth into medicine, or is applyed to sick or sound upon any Physical qualification : the reason of this is given by himself and *Fracastorius*, to be either, because Asps under their Climate or Region are not venomous at all, as in other Countries, neither Vipers nor Serpents are venomous : or else because those people have a kinde of sympathy in nature with them, by reason whereof they can receive no poyson from them.

Textor.

The poyson of Asps saith *Moses*, Deut. 32. is *crudele venenum*, a cruel poyson, and Job, 20. cap. expressing the wicked mans delight in evil, saith ; *That he shall suck the poyson of Asps.* For which cause, as we have shewed already, the harm of this is not easily cured. We read that *Canopus*, the Master of *Menelaus* ship, to be bitten to death by an Asp at *Canopus* in Egypt. So also was *Demetrius Phalareus*, a Scholar of *Theophrastus*, and the Keeper of the famous Library of *Ptolemaus Soter*. *Cleopatra* likewise to avoid the triumph that *Augustus* would have made of her, suffered her self willingly to be bitten to death by an Asp. Wheu pon *Propertius* writeth thus :

Brachia

*Brachia spectavi sacris admosa colubris,
Et trahere occultum membra soporis iter.*

In English thus;

*Thus I have seen those wounded arms,
With sacred Snakes bitten deep,
And members draw their poysoned harms,
Treading the way of death's sound sleep.*

We read also of certain Mountebanks, and cunning Juglers in *Italy*, called *Circulatores*, to perish by *Ælianus*. their own devises through the eating of Serpents, and Asps which they carryed about in Boxes as tame, using them for ostentation to get Money, or to sell away their Antidotes. When *Pompeius Rufus* was the great Master of the Temple-works at *Rome*, there was a certain Circulator or Quack-salver, to shew his great cunning in the presence of many other of his own trade, which set to his arm an Asp, presently he sucked out the poyson out of the wound with his mouth: but when he came to look for his preservative water, or antidote, he could not finde it; by means whereof the poyson fell down into his body, his mouth and gums rotted presently, by little and little, and so within two days he was found dead. The like story unto this is related by *Amb. Parus*, of another, which at *Florence* would fain sell much of his medicine against poyson, and for that purpose suffered an Asp to bite his flesh or finger, but within four hours after he perished, notwithstanding all his antidotical preservatives.

Now therefore it remaineth, that we add in the conclusion of this History, a particular discourse of the bitings and venom of this Serpent, and also of such remedies as are appointed for the same. Therefore we are to consider, that they bite and do not sting, the females bite with four teeth, the males but with two, and when they have opened the flesh by biting, then they infuse their poyson into the wound. Only the Asp *Ptyas*, killeth by spitting venom through her teeth, and (as *Avicen* saith) the savour or smell thereof will kill, but at the least the touching infecteth mortally. When an Asp hath bitten, it is a very difficult thing to espy the place bitten or wounded, even with most excellent eyes, as was apparent upon *Cleopatra* afore said; and the reason hereof is given to be this, because the poyson of Asps is very sharp, and penetrateth suddenly and forcibly under the skin, even to the inmost parts, not staying outwardly, or making any great visible external appearance. Yet *Galen* writing to *Piso*, affirmeth otherwise of the wound of *Cleopatra*; but because drowsiness and sleep followeth that poyson, I rather believe the former opinion: and therefore *Lucan* calleth the Asp, *Somnifera*, that is, a sleep-bringing Serpent. And *Pictorius* also subscribeth hereunto.

*Mercurial.
Actius.*

*Apidis & morsu lesum dormire fatentur
In mortem, antid. tum nec valuisse ferunt.*

Which may be Englished thus;

*He that by rage of Asps tooth is bitten or is wounded,
They say doth sleep until his death cureless, he is confounded.*

The pricks of the Asps teeth, are in appearance not much greater then the prickings of a needle, without all swelling, and very little blood issueth forth, and that is black in colour; straightway the eyes grow dark and heavy, and a manifold pain ariseth all over the body, yet such as is mixed with some sense of pleasure, which caused *Nicander* to cry out, *Perimitque virum absque dolore*, it kills a man without pain. His colour is all changed, and appeareth greenish like grass. His face or forehead is bent continually frowning, and his eyes or eye-lids moving up and down in drowsiness without sense, according to these verses following.

*Nec tamen ulla vides impressi vulnera morsus,
Nec dignus fati tumor ictum corpus adurit.
Sed qui lesus homo est, citra omnem fata dolorem
Claudit, & ignavo moriens torpore fatiscit.*

Which I translate thus;

*Wounds of impressed teeth, none canst thou see,
Nor tumour worth the naming, smitten body burning,
But yet the hurt man painless taketh destiny,
And sleeping dyeth, sluggishly him turning.*

The true signes then of an Asps biting, is stupour or astonishment, heaviness of the head, and slothfulness, wrinking the fore-head, often gaping and gnawing, and nodding, bending the neck, and Convulsion: but those which are hurt by the *Ptyas*, have blindness, pain at the heart, deafness, and swelling of the face. And the signes of such as are hurt by the *Chalidonian* or *Chersæan* Asp, and the *Terrestrial* are all one, or of very little difference, except that I may adde the Cramp, and the often beating of the pulse, and frigidty of the members or parts, or pain in the stomach, but all of them in in general, deep sleep, and sometimes vomiting. But by this, that the blood of the place by them bitten turneth black; it is apparent and manifest, that the poyson of the Asp mortifieth

or

Ponzetius.

Galen.

Dioscorid.

Aetius.

Aegineta.

Mercurialis.

Parvus.

Aetius.

Mercurialis.

Andreas.

Aetius.

or killeth the natural heat, which is overcome by the heat of the poyson outwardly, and the darknesse or blindness of the eyes proceedeth of certain vapours which are infected, and ascend up to the disturbance of the brain: and when the humors are troubled in the stomach, then followeth vomiting or else the cramp, and sometimes a looseness when the knuckles are drawn in by the venomous biting, or the infected humors falling down into the intrails. To conclude, so great is the tabifical effect of this poyson of Asps, that it is worthily accounted the greatest venom, and most dangerous of all other; for *Aelianus* saith, *Serpentum venenum cum pestiferum sit, tum multo aspidis pestilentius*, the poyson of all Serpents is pestiferous, but the venom of the Asp most of all. For if it touch a green wound, it killeth speedily, but an old wound receiveth harm thereby more hardly. In *Alexandria*, when they would put a Man to a sudden death, they would set an Asp to his bosom or breast, and then after the wound or biting, bid the party walk up and down, and so immediately within two or three turns he would fall down dead. Yet it is reported by *Pliny*, that the poyson of Asps drunk into the body doth no harm at all, and yet if a Man eat of the flesh of any beast slain by an Asp, he dyeth immediately.

But concerning the cure of such as have been, or may be hurt by Asps, I will now entreat, not spending any time to confute those, who have wrote that it is incurable: on the contrary it shall be manifest, that both by Chirurgery and Medicines, compound and simple, this both hath been and may happily be effected. First it is necessary when a Man is stung or bitten by a Serpent, that the wounded part be cut off by the hand of some skilful Chirurgeon, or else the flesh round about the wound, with the wound it self to be circumcised and cut with a sharp Rasor; then let the hottest burning things be applyed, even the searing Iron to the very bone. For so the occasion being taken away from the poyson to spread any further, it must needs die without any further damage. Then also the holes in the mean time before the ejection must be drawn, either with Cupping-glasse or with a Reed, or with the naked rump of a Ringdove or Cock; I mean the very hole set upon the bitten place. And because the hole is very narrow and small, it must be opened and made wider, the blood be drawn forth by scarifications, and then must such medicinal herbs be applyed as are most opposite to poyson, as Rue, and such like. And because the poyson of Asps doth congeal the blood in the veins, therefore against the same must all hot things made thin be applyed, as *Mithridatum* and *Triacle* dissolved in *Aqua vite*, and the same also dissolved into the wound; then must the Patient be used to bathings, fricasing or rubbing, and walking, with such like exercises. But when once the wound beginneth to be purple, green, or black, it is a sign both of the extinguishment of the venom, and also of the suffocating of natural heat, then is nothing more safe then to cut off the member, if the party be able to bear it. After Cupping-glasses, and Scarifications, there is nothing that can be more profitably applyed then Centory, Myrrh, and *Opium*, or Sorrel after the manner of a Plaister. But the body must be kept in daily motion and agitation, the wounds themselves often searched and pressed, and Sea-water used for fomentation. Butter likewise, and the leaves of Yew, are very good to be applyed to the bitings of Asps. And in the Northern Regions, (as witnesseth *Olavus Magnus*,) they use nothing but Bran like a Plaister, and their Cattle they anoint with *Triacle* and Salt all over the bunch or swelling. And thus much for the Chirurgical cure of the biting of Asps. In the next place, we may also relate the medicinal cure, especially of such things as are compound, and received inwardly.

First, after the wound, it is good to make the party vomit, and then afterward make him drink juyce of Yew and *Triacle*, or in the default thereof, Wine, as much of the juyce as a groat weight, or rather more. But for the tryal of the parties recovery, give him the powder of Centory in Wine to drink, and if he keep the medicine, he will live, but if he vomit or cast it up, he will dye thereof. But for the better avoidance and purging out the digested venom, distributed into every part of his body, give the party Garlick beaten with *Zythum*, until he vomit, or else *Opoponax* in Wine allayed with water: also *Origan* dry and green. After the vomit, the former antidotal medicines may be used. And the Northern people use no other *Triacle* then Venetian. Whereas there are abundance of all manner of Serpents in the *Spanish* Islands, yet never are any found there to use *Triacle*, neither do they account of it as of a thing any whit vertuous, but instead thereof they use the bearded *Thapsia*, Gilly-flowers, and red Violets, and the herb *Avance*, boyled in Wine Vinegar, the sharpest that may be gotten, and a sound mans Urine, wherewithall they bathe the wounded part, although much time after the hurt received. But saith *Amb. Parvus*, it is much better for the Patient to drink thereof fasting, and before meat two hours, three ounces at a time. And by the help of this notable experiment, the Inhabitants of those Islands are nothing afraid to offer their bodies to be bitten by the most angry Asps. And thus much for compound medicines in general.

It is said, that the first and chiefest easie remedy for such as are bitten by Asps, is to drink so much of the sharpest Vinegar, as he can sensibly perceive and feel the same upon the right side of his midriff, because that poyson first of all depriveth the liver of sense. For *Pliny* saith, that he knew a man carrying a bottle of Vinegar to be bitten by an Asp, whiles by chance he trode thereupon, but as long as he bore the Vinegar and did not set it down, he felt no pain thereby, but as often as to ease himself he set the bottle out of his hand, he felt torment by the poyson, which being related to the Physicians, they knew thereby that Vinegar drunk into the stomach was a sovereign antidote against poyson. Yet some say, that the first knowledge of this vertue in Vinegar, grew from the necessity which a little boy bitten by an Asp had of drinking, and finding no other liquor but a bottle of Vinegar, drank thereof a full draught, and so was eased of his pain. For the reason is, that

that it hath both a refrigerative, and also a dissipating vertue, as may appear when it is poured on the earth, because it yeeldeth a froth, and therefore when it cometh into the stomach, it disperseth all the infected humors.

The Northern Shepherds do drink Garlick and stale Ale against the bitings of Asps. And some hold an opinion that Aniseed is an antidote for this fore. Others use Hart-wort, *Apium* seed, and Wine. *Aron* being burned, hath the vertue to drive away Serpents, and therefore being drunk with Oyl of bays in black Wine, it is accounted very soveraign against the bitings of Asps. The fruit of Balsam, with a little powder of Gentian in Wine, or the juyce of Mints, keepeth the stomach from the Cramp after a Man is bitten by an Asp. Others give *Castoreum*, with *Lignum Cassia*, and some the skin of a Storks stomach or maw. There be certain little filthy and corrupt Worms bred in rotten wood or paper, called *Cimices*, these are very profitable against poyson of Asps, or any other venomous biting beast, and therefore it is said that Hens and other Pullein do earnestly seek after these worms, and that the flesh of such fowl as have eaten thereof, is also profitable for the same purpose.

Athenæus also writeth, how certain Theeves were condemned to be cast to Serpents to be destroyed, now the morning before they came forth, they had given them to eat Citrons; when they were brought to the place of execution, there were Asps put forth unto them, who bit them, and yet did not harm them. The next day, it being suspected, the Prince commanded to give one of them a Citron, and the other none, so when they were brought forth again the Asps fell on them, and slew them that had not eaten Citron, but the other had no harm at all. The Egyptian *Clematis* or *Periwink* drunk in Vinegar, is very good against the poyson of Asps; so likewise is Corral in Wine, or the leaves of Yew. Henbane bruised with the leaves thereof, and also bitter Hops have the same operation. The urine of a Tortoise drunk, is a medicine against all bitings of wilde beasts, and the urine of a Man hurt by an Asp, as *Marcus Varro* affirmed in the eighty ninth year of his age, according to the observation of *Serenus* saying;

*Si vero horrendum vulnus fera fecerit Aspis,
Urinam credunt propriam conducere potu:
Varronis fuit ista senis sententia, nec non
Plinius ut memorat, sumpti juvat imber aceti.*

Which may be Englished thus;

*If that an Asp a mortal wound do bite,
It's thought his urine well doth cure again,
Such was the saying of old Varro hight,
And Pliny too, drink Vinegar like drops of rain.*

But it is more safe to agree with *Pliny* in the prescription of Mans urine, to restrain it to them that never had any beards. And more particularly against the Asp called *Ptyas*, and *Matthiolus* out of *Dioscorides* saith, that the quintessence of *Aqua vite*, and the usual antidote, both mixed together and drunk, is most powerful against the venoms of the deaf Asp. And thus much for the antipathy and cure of Asps biting venomous nature, whereunto I will add for a conclusion, that proverbial speech, of one Asp borrowing poyson of another, out of *Tertullian* against the Heretick *Marcion*, who gathered many of his absurd impieties from the unbelieving Jews. *Desinat nunc hereticus à Judæo aspis quod aiunt à Vipera mutuari venenum*, that is, let the heretick now cease to borrow his venom of a Jew, as the Asps do borrow their poyson from Vipers. And true it is, that this proverb hath especial use, when one bad man is help or counselled by another; and therefore when *Diogenes* saw a company of women talking together, he said merrily unto them, *Aspis par echidnes pharmacon dancizetai*, that is, the Asp borroweth venom of the Viper. Thus much of the Asp.

Of the Description and differences of B E E S.

Amongst all the sorts of venomous Insects, (or cut-wasted creatures) the soveraignty and preeminence is due to the Bees, who only of all others of this kinde, are made for the nourishment of mankinde, all other (cut-wasted) serving only for medicinal use, the delight of the eyes, delectation of the ears, and the ornament, trimming, and setting forth of the body, which they perform at the full. They are called of the Hebrews, *Deborah*; the Arabians term them, *Albara*, *Nabalea*, and *Zabar*; the Illyrians and Solavonians, *Wezilla*; the Italians, *Ape*, *Api*, *Una sticha*, *Moscatella*, *Ape* or *Scoppa*, *Pecchi*; the Spaniards, *Abeia*; Frenchmen, *Mousches au miel*; the Germans, *Een ymbe, apen*. The Flemings, *Bie*; the Polonians, *Pztzota*; the Irish men, *Camilii*. In Wales a Bee is called *Gweniv*. Amongst the Grecians they have purchased sundry names, according to the diversity of Nations, Countries and places, but the most vulgar name is *Melissa*, and in *Hesiodus*, *Melie*. Other some call a Bee *Plastis*, à *singendo*, of framing. Some again *Anthedon*: and of their colour, *Xanthai*. Of their Offices and charge, *Egemones*, ab *imperando*, from governing. *Sirenes*, à *suavi cantu*, from their sweet voyce. The Latines call them by one general name, *Apis* and *Apes*. *Varro* sometimes terms them *Aves*, but very improperly, for they might better be named *Volucres*, not *Aves*. So much for their names, now to the description.

Dr. Bonhan
his discourse
of Bees, Wasps
and Drones.

Names.

A. um definitio.

Description of
their parts.No respiration
in Bees.Differences of
Bees from na-
ture.Description of
the King.Differences in
regard of sex.

A Bee is a cut-wasted living creature, that can flye, having four wings, and bloudlesse, the only Crafts-master of Hony-making. Their eyes are somewhat of a horny substance; hid deep in their bodies, as is also their sting: they want neither tongue nor teeth, they have four wings, being of a bright and clear colour, growing to their shoulder-blades, whereof the two hinder-most are the lesser, because they might not hinder their flying: and out of their short feet or stumps there grow forth as it were two fingers, wherein they carry a little stone, for the poising and making weighty their small bodies in stormy, tempestuous, blustering or troublesome weather, for fear lest they might be driven from their house and home, by the contrary rage and violence of the windes. They do not breath (by *Plinies* good leave) but either pant, move, or stir (as the heart or brain doth) and by transpiration they are comforted, refreshed, and made lively. Their stomach is contexed and framed of the thinnest part of all their members, wherein they not only retain, and safely keep their Honey dew which they have gathered, but also digest, purifie, and cleanse it, which is the true and only reason, why the Honey of Bees is longer kept pure and fine, then any Manna or Meldew, or rather it is not at all subject to corruption.

Bees even by nature are much different: for some are more domestical and tame, and other again are altogether wilde, uplandish, and agrestial. Those former are much delighted with the familiar friendship, custom and company of men, but these can in no wise brook or endure them, but rather keep their trade of Honey-making in old trees, caves, holes, and in the ruders, and rubbish of old walls and houses. Of tame Bees again, some of them live in pleasant and delightful Gardens, and abounding with all sweet senting and odoriferous plants and herbs; and these are great, soft, fat, and big bellyed. Others again, there be of them that live in Towns and Villages, whose study and labour is to gather Honey from such plants as come next to hand, and which grow farther off, and these are lesser in proportion of body rough and more unpleasant in handling; but in labour, industry, wit and cunning, far surpassing the former. Of both sorts of these, some have stings (as all true Bees have:) others again are without a sting, as counterfeit and bastardly Bees, which (even like the idle, sluggish, lithier, and ravenous cloystered Monks, thrice worse then theeves) you shall see to be more gorbellied, have larger throats, and bigger bodies, yet neither excellent or markable, either for any good behaviour and conditions, or gifts of the minde. Men call these unprofitable cattle, and good for nothing, *Fuci*, that is Drones; either because they would seem to be labourers, when indeed they are not: or because that under the colour and pretence of labour (for you shall sometime have them to carry wax, and to be very busie in forming and making Honey-combes,) they may eat up all the Honey. These Drones are of a more blackish colour, somewhat shining, and are easily known by the greatnesse of their bodies. Besides some Bees are descended of the Kingly race, and born of the blood Royal: whereof *Aristotle* maketh two sorts; a yellow kinde, which is the more noble, and the black, garnished with divers colours. Some make three Kings, differing in colour, as black, red, and divers coloured. *Menecrates* saith, that those who are of sundry colours are the worser, but in case they have diversity of colour with some blacknesse, they are esteemed the better. He that is elected Monarch *Caesar*, and Captain General of the whole swarm, is ever of a tall, personable, and heroical stature, being twice so high as the rest, his wings shorter, his legs straight, brawny, and strong, his gate, pace, and manner of walking is more lofty, stately, and upright, of a venerable countenance; and in his fore-head there is a certain red spot or mark with a Diadem; for he far differeth from the popular and inferiour sort in his comeliness, beauty, and honour. The Prince of Philosophers confoundeth the sex of Bees, but the greatest company of learned Writers do distinguish them: whereof they make the feminine sort to be the greater. Others again will have them the lesser, with a sting: but the sounder sort (in my judgement) will neither know nor acknowledge any other males, besides their Dukes and Princes, who are more able and handsome, greater and stronger then any of the rest, who stay ever at home, and very seldom (unlesse with the whole Swarm) they stir out of doors, as those whom nature had pointed out to be the fittest to be stander-bearers, and to carry ancients in the camp of *Venus*, and ever to be ready at the elbows of their loves to do them right: Experience teaching us, that these do sit on Egges, and after the manner of birds, do carefully cherish and make much of their young, after the thin membrane or skin wherein they are enclosed is broken.

The difference of their age is known by the form, state, and habit of their bodies. For the young Bees have very thin and trembling wings, but they that are a year old, as they that are two or three years



years of age are very trim, gay, bright-shining and in very good plight and liking, of the colour of Oyl.

But those that have reached to seven years, have layed away all their flatness and smoothness, neither can any man afterwards either by their figure and quality of their bodies or skins, judge or discern certainly their age (as we say by experience in Horses:) For the elder sort of them are rough, hard, thin and lean scraggs, starvelings, loathsome to touch and to look upon, somewhat long, nothing but skin and bone, yet very notorious and goodly to see to, in regard of their gravity, hoariness and anciency. But as they be in form and shape, nothing so excellent, so yet in experience and industry they far out-strip the younger sort, as those whom time hath made more learned, and length of days joyned with use, hath sufficiently instructed and brought up in the Art or trade of Honey-making.

The place likewise altereth one whiles their form, and sometimes again their nature, (as their sex and age do both.) For in the Islands of *Molucca*, there be Bees very like to winged Pismires, but somewhat lesser then the greater Bees, as *Maximilian Transilvanus*, in an Epistle of his written to the Bishop of *Salspurge*, at large relateth it. *Andrew Thevet* in his book that he wrote of the New-found World, Chap. 51. amongst other matters reporteth that he did see a company of flies or Honey-bees about a tree named *Vhebebasen*, which then was green, with the which these Honey-bees do live and nourish themselves: of the which trees there were a great number in a hole that was in a tree, wherein they made Honey and Wax. There is two kinds of the Honey-bees, one kinde are as great as ours, the which cometh not only but of good smelling flowers, also their Honey is very good, but their Wax not so yellow as ours. There is another kinde half so great as the other: their Honey is better then the other, and the wilde men name them *Hira*. They live not with the others food, which to my judgement maketh their Wax to be as black as coals, and they make great plenty, specially near to the River *Vasser*, and of *Plate*. The Bees called *Chalcoides*, which are of the colour of brasse, and somewhat long, which are said to live in the Island of *Creta*, are implacable, great fighters and quarrellers, excelling all others in their stings, and more cruel then any others, so that with their stings they have chased the Inhabitants out of their Cities; the remainder of which Bees do remain and make their Honey-combes (as *Aelianus* saith) in the Mountain *Ida*. Thus much of the differences of Bees; now it remaineth to discourse of the Politick, Ethical, and Oeconomick vertues and properties of them.

Bees are governed and do live under a Monarchy, and not under a tyrannical State, admitting and receiving their King, not by succession or casting of lots, but by respective advice, considerate judgement, and prudent election; and although they willingly submit their necks under a Kingly government, yet notwithstanding they still keep their ancient liberties and priviledges, because of a certain Prerogative they maintain in giving their voices and opinions, and their King being deeply bound to them by an oath, they exceedingly honour and love.

The King as he is of a more eminent stature, and goodly corporature (as before we have touched) then the rest: so likewise (which is singular in a King) he excelleth in mildness and temperateness of behaviour. For he hath a sting, but maketh it not an instrument of Revenge, which is the cause that many have thought their King never to have had any. For these are the laws of nature, not written with Letters, but even imprinted and engraven in their conditions and manners: and they are very slow to punish offenders, because they have the greatest and Sovereign power in their hands. And although they seem to be slack in revenging and punishing private injuries, yet for all that they never suffer rebellious persons, refractorious, obstinate, and such as will not be ruled, to escape without punishment; but with their pricking stings they grievously wound and torment, so dispatching them quickly. They are so studious of peace, that neither willingly nor unwillingly they will give any cause of offence or displeasure. Who therefore would not greatly be displeased with, and hate extremely those *Dionysian* Tyrants in *Sicilia*, *Clearchus* in *Heraclea*, and *Apollodorus* the Thief, Pieler and spoiler of the *Cassandrians*? And who would not detest the ingratiouness of those Jewd claw-backs, and Trencher-parasites, and flatterers of Kings, which dare impudently maintain, that a Monarchy is nothing else but a certain way and rule for the accomplishing of the will, in using their authority as they list, and a science or skilful trade, to have wherewith to live pleasantly in all sensual and worldly pleasure: which ought to be far from a good Prince, who whilest he would seem to be a Man, he shew himself to be far worse then these little poor winged creatures. And as their order and course of life is far different from the vulgar sort, so also is their birth; for they of the Kingly race are not born after the manner of a little Worm, as all the Commynalty are, but is forthwith winged; and amongst all his younglings; if he finde any of his sons to be either a fool, unhandsome, that none can take pleasure in, rugged, rough, soon angry, fumish or too teasty, ill shaped, not beautiful or Gentleman-like, him by a common consent, and by a Parliamentary authority they destroy, for fear lest the whole Swarm should be divided and distracted into many mindes; and so at length the Subjects undone by factions, and banding into parts.

The King prescribeth laws and orders to all the rest, and appointeth them their rules and measures: for some he straightly chargeth and commandeth, (as they tender his favour, and will avoid his displeasure) to fetch and provide water for the whole Camp. He enjoyneth others to make the Honey-combes, to build, to garnish, and trim up the house well and cleanly, to finish perfectly the work, to finde and allow, to promote and shew others what to do. Some he sendeth

The difference of the form of Bees according to the place.

Bees of America.

The government of Bees.

forth to seek their living, but being worn with years, they are maintained at the common stock at home. The younger and stronger being appointed to labour, and take their turns as they fall. And although (being a King) he be discharged and exempt from any mechanical business, yet for all that, in case of necessity he will buckle himself to his task, never at any time taking the field or air abroad, but either for his healths sake, or when he cannot otherwise chuse, by means of some urgent business. If in respect of his years he be lusty and strong, then like a Noble Captain he marcheth before his whole winged-army, exposing himself first to all perils, neither with his good will will he be carryed of his Souldiers, unless he be wearied and weakened by means of crooked age, or mastered and clean put out of heart, by any violent sickness, so that he can neither stand on his legs, nor fly. When night approacheth, the sign and token being given by his Honey-pipe, or Cornet, (if you will so call it) a general Proclamation is made through the whole Hive, that every one shall betake himself to rest, so the watch being appointed, and all things set in order, they all make themselves ready and go to bed. So long as the King liveth, so long the whole swarm enjoy the benefit of peace, leading their lives without any disquieting, disturbance, vexation, or fear of future wars. For the Drones do willingly contain themselves in their own cells, the elder living contented with their own homes, and the younger not daring for their ears to break into their fathers Lands, or to make any inroads or invasion into the houses of their predecessors. The King keepeth his Court by himself, in the highest and largest part of the whole Palace, his lodging being workmanlike and very cunningly made of a fine round or enclosure of Wax, being thus as it were fenced and paled about as with a defensible wall. A little from him dwell all the Kings children, being very obedient to their parents beck. Their King being dead, all his subjects in an uprore, Drones bring forth their young in the cells of the true Bees, all are in a hurly burly, all being out of season and order. Aristotle saith, that Bees have many Kings, which I would rather term Viceroyes or Deputies, sithence it is certain (as *Antigonus* affirmeth) that as well the swarms do die and come to nought, by having of many Kings, as none at all. And thus to have spoken of good Kings let this suffice. Evill Kings are more rough, rugged, browner, blacker, and of more sundry colours: whose natures and dispositions you will condemn, in respect of their habit and manner of body and minde, the one and other are thus Physiognomically described by the Poet;

Namq; duarum facies, duo corpora gentis.

Alter erit maculis auro squalentibus ardens,

Et rutilis clarus squamis, insignis & ore.

Et dior est alter multo, quam pulvere abactio.

Quum venit & siccum terram spuit ore venator:

Desidia latamque trabens inglorius alium.

Dede neci, melior vacua sine regnet in aula.

In English thus;

The two aspects of Kingly Bees, two Nations do disclose,

One of them, Golden spotted red, burning with pale brow,

And having scales both red and clear, and great about the nose,

The other filthy to behold like dust, for it is true,

Which hunters spit upon dry land, when all is crusted and prest,

In sloth belly broad, doth travail worse then the least,

Him kill, let the other reign

Alone, in empty Court, do not disdain.

And thus hitherto have we spoken of their Kings and Dukes: now will we bend our discourse to the common sort of Bees.

Bees are neither to be accounted wilde, nor altogether calm and quiet creatures; but of a nature betwixt both: and of all other they are esteemed most serviceable and profitable. Their sting giveth both life and death to them, for being deprived of it, they surely die: but having it, they repell all hostility from their swarms. Of these there are none idle, although they be not all Honey-makers, neither are the most sluggish of them all, like unto the Drones in their inclination and manners: For they do not corrupt and mar the Honey-combes, neither do they lie in wait by treachery and deceit to filch Honey, but are nourished by flowers, and flying forth with their fellows, do get their living with them; although some of them want the skill to make and lay up the Honey finely and safely, yet notwithstanding every one hath his proper charge and business to use and practise; for these bring water to the King, and to the older Bees that cannot travail.

The elder sort if they be of a strong and robustious constitution, are chosen for the guard of the Kings person, as the fittest persons to be about him, in respect of their approved worth, faithful dealing, and uprightness of conscience, for the ordering and disposing of all matters. Some give Physick to those that are sick, by making and giving to them a medicinal aliment of Honey, that is drawn from Anise, Saffron and Hyacinths. But if any through age or sickness chance to die, then they whose office it is to carry forth the dead bodies to burying do forthwith flock together, carrying the dead body of their brother on their shoulders, as it were on a Beere, lest the pure Honey-combes might be tainted with any uncleanness, stink, or nastiness.

Bees have also their Ambassadors and Orators, sent with commission or authority, and put in trust to deal in their Princes affairs, their old beaten Souldiers, their Pipers, Trumpeters, Horn-winders, Watchmen, Scout-watches, and Septinels. Likewise Souldiers ever in a readi-

readinesse to defend, and look to their Hony-wealth and goods, as if it were a City committed to their trust and valiancy, and these do punish, torment, and throw to the ground all flying Theeves and Worms, that dare invade secretly by any cunning passage, or mine into their mansions. And that they might bear the world in hand, that they are no privy or secret Theeves in their flying, they make a noyse and humming, which together with their flight, is heard both to begin and end: Which sound, whether it proceedeth from the mouth, or from the motion of their wings, *Aristotle* and *Helychius* do much vary and contend.

Their Pipers and horn-blowers do *edere Ziggon*, as *Helychius* saith (the Englishmen term it *Sing*) and that they make to be the watch-word and privy token, for their watch and ward, sleep, and daily labour. They love their King so entirely, that they never suffer him to goe abroad alone, but their Army being divided into two parts, and by heaps winding themselves round, they do as it were enclose and fence him on all sides. If in any journey the King hap to wander from his company, and cannot be found, being driven away by the force of some stormy windes or weather, they all forthwith make a privy search, and with their quick-senting, persue and follow the chase so long, untill he be certainly found; and then because he is tyred with flying, and the tediousness of tempests, the common sort lift him upon their wings, and so triumphantly convey him home as it were in a Chariot. But if he die by the way, then they all mournfully depart, every one to his own place separating themselves, or peradventure for a while, they work up their Honey-combes not yet finished, but never make any more Honey; So that at length, growing to be lazy, sickly, wasted, consumed and distained with their own filth and corruption, they all miserably perish. For they cannot possible live without a King, against whom, none is so hardy as to lift up his finger to offer him any violence, much less to conspire his destruction, unless he (after the fashion of Tyrants) do overthrow and turn all things upside down, after his own will and lust, or neglecting carelessly the Weal publique, setteth all upon six and seaven. Yea, if he accustom himself to go often abroad, (which he cannot do without the great hurt and prejudice of his Citizens) they do not by and by kill him, but they take from him his wings, and if he then amend his life and look better to his office, they singularly affect and honour him.

When the King by flying away hath left his Bees, they fetch him again, and being a fugitive from his Kingdom, they follow him again by his smell, as it were with hue and cry, (for amongst them all the King smelleth best) and so bring him back to his Kingly house. None dare venture out of his own lodging first, nor seek his living in any place, except the King himself first going forth, do direct them the way of their flight. For I am hardly of *Aristotles* minde, who affirmeth that the King never cometh abroad, but when the whole swarm doth, which is seldom seen. But if by reason of his tyranny, cruelty, and violent rule, they be forced to seek some other dwelling places, then a few days before the time appointed, there will be heard a solitary, mournful, and peculiar kinde of voice, as it were of some trumpet, and two or three days before they flie about the mouth of the Hive; so when all things are in a readinesse for their flight, being all assembled, they flie all speedily away, and kill the Tyrant (whom they left behinde) if he attempt to follow them. But a good King they never forsake; and if at any time he pine and fall away by reason of sickness, any plague, or murrain, or through old age, all the meaner sort do make mone, the whole rout and multitude of Senators and Aldermen do greatly bewail him, not conveying any meat into their Hives, nor yet looking out of doors for meer grief, filling the whole house with sorrowful hummings and laments, and gathering themselves by heaps about the carcase of the dead King, they do with great noise tragically mourn for him. Neither doth continuance of time mitigate or take away their grief, but at length all of these faithful friends, partly through grief, and partly through famine, they are clean consumed and brought to death.

Whilest they have a King, the whole swarm and company is kept in awful order, but he being gone, they go under the protection of other Kings. They have not many Kings at once, neither can they endure usurpers, overthrowing their houses, and rooting out their stock and family. And if in one swarm there be two Kings, (as sometimes it falleth out) then one part adhereth to the one King, and the other side cleaveth to the other, so that sometimes in one hive you shall finde Honey-combes of sundry forms and fashions: where they behave themselves so honestly and neighbourly, that the one meddleth not with the others charge and business, having no minde to enlarge their Empire, to entice, draw, or win by fair means the subjects of the other side, but every one being obedient to his own King without contradiction. They honour him so highly, that being lost they complain; being decrepit, they preserve and keep him; being weary, they carry him round about with them; being dead, they bewail him with all funeral pomp and heaviness, yeelding up at length even their very lives for an assurance of their loves and faithful dealings. Oftentimes they arrear deadly war against strangers born, for the Honey that they have stoln from them, as for the catching and snatching up afore-hand those flowers whereon they purposed to sit on; so that sometimes the quarrel is determined by dint of sword in a just battail. Oftentimes again they wrangle about their Honey-combes and dwelling houses, but then the deadly and unappeaseable war is, when the contention is about the life, crown, and dignity of their King, for then they bestir themselves most eagerly, defending him most valiantly, and receiving the darts or stings that are bended against him, with an undanted courage, by the voluntary and thick interposing of their own bodies, betwixt the darts and the person of their King.

Neither are Bees only examples to men of Political prudence and fidelity, but also presidents for them to imitate in many other vertues. For whereas Nature hath made them *Zooa agelata*, that is, creatures living in companies and swarms, yet do they all things for the common good of their own rout and multitude, excepting ever the Drones and Theeves, whom if they take tripping in the manner, they reward with condign punishment. Their houses are common, their children common, their laws and statutes common, and their countrey common. They couple together without question as Camels do, privily and apart by themselves, which whether it proceed of modesty, or be done through the admirable instinct of Nature, I leave it to the dispute and quaint resolution of those grave Doctors, who being laden with the badges and cognizances of learning, do not stick to affirm that they can render a true reason even by their own wits, of all the causes in nature, though never so obscure, hid and difficult.

Flies and Dogs do far otherwise, whose impudency is such, that having no regard of times, persons, or places, they will not give place, or be disjoyned. Yea the *Massagets* (as *Herodotus* writeth) having their quiver of arrows on their carts, they dealt with their wives very unseasonably, and though all men beheld it, yet they most impudently contemned it. And that which is worser, this beastly fashion is crept amongst the usurpers, or at least professors of the Christian name, who shame not openly to kiss and embrace, yea even to play and meddle with filthy whores and brothelly queans. Bees surely will condemn these kinde of people of beaftial impudency and wanton shamelesnes; or causing them to blush if they have any grace, will teach them repentance. Neither are they altogether such creatures as cannot endure or away with musick, (which is the Princess of delights, and the delight of Princes) as many unlearned people cannot, but are exceedingly delighted with tune in any harmony wherein is no jarring, so the same be simple and unaffected.

And although they have not the skill to daunce according to due time, order and proportion in Musick, as they say Elephants can, yet do they make swifter or slower their flight, according to the Trumpetors minde, who with his sharp and shrill sound causeth them to bestir themselves more speedily; but beating slowly and not so loud upon his brazen instrument, maketh them more slow, and to take more leisure. Neither hath Nature made them only the most ingenious of all living creatures, but by discipline hath made them tame and tractable. For they do not only know the hand and voice of the Honey-man, or him that hath the charge and ordering of the same, but they also suffer him to do what liketh him best: which every man must needs confesse to be an argument of a generous and noble disposition, thus to undergo the rule of their Over-seers and Surveyors, but the hand and discipline of a stranger they will by no means endure.

As for æconomical vertues they excel also, and namely for moderate frugality and temperance, not profusely and prodigally wasting and devouring the great store of Honey which they gathered in the Summer season, but they sustain themselves therewith in Winter, and that very sparingly: And so whilst they feed upon few meats, and those of the purest sort, they purchase long life, (the reward of sobriety.) Neither are they so niggardly and sordidous minded, but when as they have gathered more Honey then their number can well spend, they communicate and impart some very liberally amongst the Drones. As for their cleanliness these may be certain arguments, that they never exonerate nature within their hives, (except constrained thereto by some sickness, foul weather, and for some urgent necessity) that they convey away the dead carcases, that they touch no rotten nor stinking flesh, or any other thing, no herb that is withered, nor no ill senting or decayed flowers.

They kill not their enemies within their hives, they drink none but running water, and that which is thoroughly defecated: they will not dwell in houses impure and foul, fluttish, black, or full of any feculent or dreggy refuse, and the excrements of the labourers and sickly, they gather on a heap without their pavilions, and as soon as their leisure serveth it is carryed clean away. Concerning their temperance and chastity, (although it hath been partly touched before,) yet this I will add, that it is wonderful what some men have observed. For whereas all other creatures do couple in the open sight of men, the Elephant only excepted, and Wasps likewise not much differing in kinde, do the same: yet Bees were never yet seen so to joyn together, but either within their hive, very modestly they apply themselves to that business, or else abroad do it without any witnesses. And they are no less valiant then modest and temperate, *Dum corpora bello obiectant, pulchramque petunt per vulnera mortem*. Their war is either civil or forain. Of the former there be divers causes, that is to say; the multitudes of their Dukes or Captains lying in wait to betray both King and Kingdom: scarcity of victual, straightness of place and room, corruption of manners and idleness. For if they have no Dukes, then it is expedient (as other whiles it happeneth) they stay the overplus, lest the number of them growing too great, either violence might be offered to the King, or the Commons drawn to some sedition.

They kill them most of all, when as they have no great store of young Bees to plant any new Colonies, overthrowing and spoiling withall their Honey-combs (if they have any.) They execute also Theeves and Drones, so often as they have not room enough to do their business in, (for they hold the more inward part of the Hive,) so taking from them at one time, both their Honey-combs and meat. The scarcity and lack of Honey, causeth them also to be at deadly feud, so that the short Bees do encounter the long with might and main. In the which bickering, if the short be Conquerors, it will be an excellent Swarm, but if fortune smile on the long Bees side, they live idly, making never any good Honey. Whosoever getteth the day, they are so given to rapine and revenge,

venge, as they take no prisoners, nor leave any place to mercy, but commit all to the sword.

Now concerning their forain wars, I must say they give place to no other living creature, either in fortitude, or hardy venturing: and if either men, four-footed beasts, birds, or Wasps, do either hinder, disquiet, or kill any of them, so that they be not well contented, against all these they oppose themselves very stoutly, according to their power wounding them. They hate extreemly adulterous persons, and such men as be smeared with any Ointment, those that have curled or crisped hair (as also all unfaithful and base raskally people) and all those that wear any red clothes of the colour of blood: as contrariwise they love and reverence exceedingly their Masters, Keepers, Tutors, Defenders, and Maintainers: so that sitting upon their hands, they do rather tickle and lick them in sporting wise, then either wound or hurt them, though never so little with their sting. Yea these men may safely without any touch of hurt, and without any covering to their hands, gather together the swarms in a very hot Summer; yea, handle, place them in order, heap up together, sit or stand before their Hives, and with a stick take clean away Drones, Theeves, Wasps, and Hornets.

If any Souldier loseth his sting in fight, like one that had his Sword or Spear taken from him, he presently is discouraged and despaireth, not living long, through extremity of grief. Going forth into the field to fight, they stay till the watchword be given, which being done, they flock in great heaps about their King (if he be a good one) ending all their quarrell in one set battel. In their order of fighting, how great vertue, courage, strength, and nobleness these poor creatures shew, as well we our selves can testifie, and they better who have assured us by their writings, that whole Armies of armed men have been tamed by the stings of Bees, and that Lions, Bears, and Horses, have been slain by means of them. And yet (how fierce and warlike soever they seem to be,) they are appeased and made gentle with continual or daily company, and unless they be too much netled and angered, they live peaceably enough without any great trouble, never hurting any one maliciously or deceitfully, that standeth before their Hives. If I should go about to declare at large their ingeny, natural inclination, cunning workmanship and memory; I should not only give unto them with *Virgil: Particulam aure divinae*, but also *haustus mentis aetherae*, and (*liceat Pythagoricè errare*,) the *Metempsychosis* of that ingenious Philosopher. For after that they are inclosed in a clean and a sweet hive, they gather out of gummy and moist liquor yeelding trees a kinde of glutinous substance, thick, clammy and tough, (called of the *Latines*, *Comosis*, and of the *Greeks*, *Mitys*,) especially from Elms, Willows, Canes or Reeds, yea even from stones; and this they lay for the first foundation of their work, so covering it all over as with a hard crust at first, bringing to it afterwards another layer of *Pissocera*, which is a kinde of juyce of Wax and Pitch, made with Gum and Rosin, and over that again they lay *Propolis*, which we call Bee-glew.

In this same three-fold tilie, and sure ground-work thus artificially begun, they do not only laugh to scorn, jest at, and mock the eyes of the over-curious spectators of their Common-wealth and works, but that which no man considers, they do hereby defend both themselves and theirs, against rain, cold, small vermin and beasts, and all their enemies. Then after this they build their Combes, with such an Architectonical prudence, that *Archimedes* in respect of them seems to be no body. For first of all they set up the cells of their Kings and Princes in the higher place of the Honey-combes, being large, fair, sumptuous, stately and lofty, being cunningly wrought, of the most tried, purest and refined Wax, trenching them round for the greater defence of the Regal Majesty, with a mound and enclosure as it were with a strong Wall, Bulwark, or Rampire.

And as Bees in regard of their age and condition, are of three sorts, so likewise do they divide their Cells: for to the most ancient they appoint houses next to the Court, (as those that are the fittest to be of his privy Councel, and guarders of his Person) next to these are placed the young Bees, and those that be but one year old. And they of middle years and stronger bodies, are lodged in the uttermost rooms, as those that are fittest and best able to fight for their King and Countrey. Yet *Aristotle* saith, that Bees in the making of their Tents or Cells, do first of all provide for themselves, and next for their King and his Nephews, and lastly for the Drones. And as in the fabricature of their Honey-combes, they make the fashion according to the magnitude and figure of the place, fashioning it either orbicular, long, square, sword-like, or foot-like, &c. according to their own liking, running out sometimes in length eight foot: so their little Cells contrariwise, are framed after a certain form in a Geometrical proportion and measure; for by rule they are justly Sexangular, and capable enough to hold the tenant.

The whole Combe containeth four orders of Cells; the first the Bees occupy; the next the Drones possess; the third, those that are called of the *Greeks*, *Chadoones*; of the *Latines*, *Apum soboles*, (call them if you please *Schadones*.) The last is appointed for the room of Honey-making. There be some who constantly aver, that the Drones do make combes in the same hive the labouring Bees do, but that they lack the skill and power of mellification, it being uncertain whether this comes to pass either through their grossness and big-bellied fatness, or through their settled and natural laziness. And if through the weightiness of the Honey the combes begin to shake and wag, and to lean and bend as though they were ready to fall, then do they rear them up, and under-prop them with pillars made Arch-wise, that they may the more readily dispatch their business, and execute their charges, (for it is necessary that to every combe there be a ready way.)

In some places, as in *Pontus*, and in the City of *Amisus*, Bees make white Honey, without any combs at all, but this is seldom seen. And if a man would consider the rare and admirable contexture and fabrick of their Honey-combes, far excelling all humane Art and conceit, who would not subscribe with the Poet, *Esse Apibus partem divine mentis, & haustus æthereos?* who will deny them (I say) either imagination, fantasie, judgement, memory, and some certain glimpse of reason? But I will not dispute of this, neither am I of *Pythagoras* minde, who conceited that the souls of wise men, and of other ingenious creatures, departed into Bees. But whosoever will diligently examine how they divide their labours, as some to make up the combs, some to gather Honey, to heap together their meat, to trim and dress up the houses, to cleanse the common draught, to under-shore the ruinous walls, to cover those places wherein any thing is to be kept, to draw out the very strength of the Honey, to digest it, to carry it to their cells, to bring water to the thirsty labourers, to give food at set and appointed hours to the old Bees that sit to defend their King with such over-sight and painful regard, to drive away Spiders, and all other enemies; to carry forth the dead, (that no stink or ill savour hurt,) every one to know and go to his own proper cell, and generally, all of them not to stray far from home to seek their living; and when the flowers are spent neer their lodgings, to send out their espials to look for more in places further distant, to lie with their faces upward under the leaves when they have set forth any voyage by night, lest their wings being much moistened by the dew, they should come tardy home the next day; to ballance and poyle their light bodies with carrying a stone in stormy weather, and when there is any whirl-winde, to flie on the further side of the hedge, for fear lest either they might be disturbed, or beaten down by the boysterous violence thereof. Whosoever (I say) will duly consider all this, must needs confess, that they observe a wonderful order and form in their Common-wealth and government, and that they are of a very strange nature and spirit.

I had almost omitted to speak of that natural love which they bear to their young, a great vertue, and seldom seen in the parents of this age. For Bees do sit upon their combs (when they have laid their increase) almost like unto birds; neither will they stir from thence but in case of pinching hunger, returning out of hand to their breeding place again, as though they were afraid lest that by any long stay and absence, the work of their little cell might be covered over by some Spiders web (which often happeneth) or the young by taking cold might be endangered. Their young ones be not very nice or tender, nor cockeringly brought up, for being but bare three days old, as soon as ever they begin to have wings, they enjoin them their task, and have an eye to them that they be not idle, though never so little. They are so excellent in divination, that they even feel aforehand, and have a sense of rain and cold that is to come, for then (even by Natures instinct) they flie not far from home: and when they take their journey to seek for their repast, (which is never done at any set and ordinary time, but only in fair weather) they take pains continually and diligently without any stay, being laden with such plenty of Honey, that oftentimes being over-wearied, they faint in their return to their own private cottages, not being able to attain them. And because some of them in regard of their roughness are unfit to labour, by rubbing their bodies against stones and other hard matter they are smoothed, afterwards addressing themselves most stoutly to their business. The younger sort bestir them right doubtely without dores bringing to the hive all that is needful. The elder look to the family, placing in due order that Honey which is gathered and wrought by the middle aged Bees. In the morning they be all very silent, till one of them awaken all the rest with his thrice humming noise, every one bustling himself about his own proper office and charge. Returning at night, they are as it were in an uproar at the first, and after that they make a little muttering or murmuring among themselves, until the principal Officer appointed for the setting of the watch, by his flying round about, and his soft and gentle noise, doth as it were covertly and privily charge them in their Kings name to prepare themselves to rest; and so this token being given, they are as silent as fishes, so that laying ones ear to the mouth of the hive, you shall hardly perceive any the least noise at all: so dutiful they are to their King, Officers, and Rulers, reposing themselves wholly in his books, favour, and pleasure. And now I will intreat of their excellency and use.

The use of
Bees.

Whereas the Almighty hath created all things for the use and service of Man, so especially among the rest hath he made Bees, not only that they should be unto us patterns and presidents of political and oeconomicall vertues, (of the which before I have discoursed) but even Teachers and School-masters instructing us in certain divine knowledge, and like extraordinary Prophets, premonstrating the success and event of things to come. For in the years 90. 98. 113. 208. before the birth of our blessed Saviour, when as great swarms of Bees, lighted in the publique and Ox-market, upon the houses of private Citizens, and the Chappel of *Mars*, many conspiracies and treasons were intended against the State at *Rome*, with which the Common-wealth was welnigh deceived, insnared, yea and overthrown. In the days of *Severus* the Emperour, Bees made their combs in the Ensignes, banners and standards of the Souldiers, and most of all in the camp of *Niger*, after which ensued divers conflicts betwixt the Armies of *Severus* and *Niger*, Fortune for a time imparting her favours equally to them both, but at length *Severus* side carryed away the bucklers. Swarms of Bees also filled the Statuæ which were set up in all *Hetruria*, representing *Antonius Pius*, and after that they fell in the camp of *Cassius*, and what hurly burlies after that followed, *Julius Capitolinus* will resolve you. At which time also a great number of *Romans* were intrapped and slain by an ambush of *Germans* in *Germany*, *P. Fabius* and *Q. Elius*, being Consuls. It is written that a swarm lighted

lighted in the tent of *Hostilius Rutilus*, who was in the Army of *Drusus*, and did there hang after such a manner, as they did enclose round his Spear which was fastened to his Pavilion, as if it had been a rope hanging down, *M. Lepidus* and *Munatius Plancus* being Consuls. Also in the Consulship of *L. Paulus* and *Caius Metellus*, a swarm of Bees flying up and down, presignified the enemy at hand, as the Soothsayers well divined. *Pompey* likewise warring against *Cesar*, when for the pleasuring of his friends he had set his Army in array, going out of *Dyrrbachium*, Bees met with him, and darkened even the very Ancients with their great multitude. We read in the Histories of the *Helvetians*, how that in the year of our Lord God 1385, when *Leopold of Austria* prepared to go against *Sempach* with an Host of men, being yet in his journey, a swarm of Bees fled to the Town, and there rested upon a certain great Tree called *Tilia*; whereupon the vulgar sort rightly foretold the coming of some strange people to them. So likewise *Virgil* in the seventh Book of his *Aeneids*, seemeth to describe the coming of *Aeneas* into Italy after this manner:

Lauri
Hujus Apes summum densa (mirabile dictu)
Stridore ingenti liquidum trans aethera vecta
Obfudere apicem, et pedibus per mutua nexis
Examen subito ramo frondente pendit.
Continuo vates: examen cernimus (inquit)
Adventare virum.

That is,

A tale of wonder to be told, there came a swarm of Bees,
 Which with great noise within the air a Bay-tree did attain,
 Where leg in leg they cleaved fast, and top of all degrees
 O're-spread, and suddenly a hive of them remain'd
 There hanging down: whereat the Prophet said,
 Some stranger here shall come to make us all afraid.

Which thing also *Herodotus*, *Pausanias*, and divers other Historiographers, have with greater observation then reason confirmed. *Laon Acrephiniensis*, when he could not finde the Oracle of *Trophonius*, by a swarm flying thither he found the place. In like sort, the Nurses being absent, *Jupiter Meliteus*, *Hiero* the Syracusan, *Plato*, *Pindarus*, and *Ambrosius*, were nourished by Honey, which Bees by little and little put in their mouths, as *Plutarch*, *Pausanias*, and *Textor* are Authors. *Xenophon* likewise in his *Oeconomicks*, termeth Honey-making the Shop of virtues, and to it sendeth mothers of Households to be instructed: Poets gladly compare themselves with Bees, who following Nature only as a School-mistresse, useth no Art. So *Plato* saith, that Poets ruled by Art, can never perform any notable matter. And for the same reason *Pindarus* maketh his brags, that he was superior to *Bacchilides*, and *Simonides*, having only Nature, not Art to his friend. Bees unless they be incensed to anger, do no hurt at all, but being provoked and stirred up they sting most sharply: and such is the disposition and naturall inclination of Poets, and therefore in his *Mino* strictly enjoyneth, that those who love their own quiet, must take great heed that they make no wars either with Poets or Bees. Finally, they have so many virtues which we may imitate, that the Egyptians, Chaldeans, and Grecians, have taken divers Hieroglyphicks from them. And he that will read over *Pierius*, shall there finde store of Emblems of them.

The Countrey people in like manner have learned of them *Aeromantie*, that is, Divination of things by the air, for they have a fore-feeling and understanding of rain and windes aforehand, and do rightly prognosticate of storms and foul weather; So that then they flye not far from their own homes, but sustain themselves with their own Honey-suck already provided. Which being true, we must then think it no strange matter, that *Aristotle*, *Philistus*, *Aristomachus Solensis*, *Menus* the Samnite, and six hundred others that have writ of the Nature of Bees, bidding adieu to all those pleasures and delicacies that are found in Cities, for fifty and eight years space together, inhabited the Woods and Fields, that they might more exactly come to the knowledge of their order of living, and naturall dispositions, leaving it as a monument for posterity to imitate. But what their bodies do work in ours, I judge worth the labour and pains taking to let you understand, that we may be assured there is nothing in Bees, but maketh to the furtherance of our health and good.

First therefore, their bodies being taken newly from the hives and bruised, and drunk with some diuretical wine, cureth mightily the Drop sicke, breaketh the stone, openeth the obstructed passages of the Urine, and helpeth the suppression thereof. Being bruised, they cure the wringings and gripings of the belly, if they be laid upon the place affected: and if any have drunk any poysonous Honey, Bees being likewise drunk do expell the same. They mollifie hard ulcers in the lips, and being bound to the part, they cure a Carbuncle and the Bloody fluxe, amending also the crudity of the stomach, and all spots and streaks in the face, being tempered with their own made Honey; as both *Hollerius*, *Alexander*, *Benedictus*, and *Pliny* have written.

Galen affirmeth, that if you take live Bees out of their Combes, and mix them with Honey wherein Bees have been found dead, you shall make an excellent Oyntment to be used against the shedding and falling of the hair in any place of the head, causing it to grow again, and come afresh. *Pliny* again willet us to burn many Bees, commixing the ashes with Oyl, and therewith to anoyne the bald places; but we must (saith he) take great heed that we touch no other place neer adjoyning. Yea, he affirmeth, that Honey wherein is found dead Bees, is a very wholesome medicine, serving

serving for all diseases. *Erotis*, cap. 61. *De morb. muliebrib.* commendeth highly the ashes of Bees beaten and tempered with Oyl, for the dealbation of the hair.

Bees also are very profitable, because divers living creatures are nourished by, and do feed full favorly on their Honey, as the Bear, the Badger or Brock, Lizards, Frogs, Serpents, the Woodpecker or Eat-bee, Swallows, Lapwings, the little Titmouse, which of some is called a Nunne, because his head is filleted as it were Nun-like, the Robin-red-breast, Spiders, and Wasps, as *Bellonius* hath well observed.

But to what end (you will say) serveth their sting, against whose poyson *Pliny* knew no remedy? I must needs confesse truly that which cannot be denied, that the stings of Bees are sometimes venomous, but that is when either they are mad and raging, and be exceedingly disquieted by means of anger, or some vehement Feaver, for otherwise they do not sting, but prick but a little: and therefore *Dioscorides* never made mention of the stinging of Bees, supposing it very unmeet for a man to complain of so small a matter as the sting of a silly Bee. But yet they that have succeeded him, have observed pain, rednesse, and swellings, as companions and effects of their malice, especially if the sting do stick in the flesh, which if it do very deep, then death hath sometimes followed, as *Nicander* writeth in his *Theriaca*. In like manner the people of the old World (that we may prove the sting of Bees to be converted to some good use) did (as *Suidas* writeth) punish those persons who were found guilty of couzenage, and deceitfull counterfeiting of merchandize, after this sort: First, they stripped the offender stark naked, anoynting his body all over with Honey, then setting him in the open Sun with his hands and feet fast bound, that by this means being tormented with Flies, Bees, and scorching beams of the Sun, he might endure punishment, pain, and death, due to his lewd and wicked life. With which kinde of punishment and torture, the *Spaniards* do grievously vex the poor naked Islanders of *America* at this day, (now called the *West-Indies*) who are under their rule and government, not for justice sake, (as those Ancients did) but for satisfaction and fulfilling of their barbarous wills, and beastly tyranny, that they might seem to be more cruell, then cruelty it self.

Nonius saith, that if the herb Balm (called *Apiastrum*) be beaten, and anoynted with Oyl upon the stinged place, that there will ensue no hurt thereby. *Florentius* counselleth the gatherer of Honey, to anoynt himself with the juice of Marsh-mallows, for by that means he may safely and without fear take away the Combes. But the juice of any Mallow will do as much, and especially if it be mixed with Oyl; for it both preserveth from stinging, and besides it remedieth the stinged. But admit that Bees by their stinging do vex and disease us, yet notwithstanding the dead Bees so found in the Honey do speedily bring cure to that hurt, if they be duly applyed, abating and taking away all the pain and poyson. What should I say? No Creature is so profitable, none lesse sumptuous. GOD hath created them, and a little money and cost will maintain them, and small provision will content them. They live almost in all places, yea, even in Forrests, Woods, and Mountains; both rich and poor by their good husbandry do gather good customs and pensions by them, they paying (as all men know) very large rents for their dwelling houses; and yet for all their tribute they pay, a man need neither keep one servant the more for the gathering of it, nor set on pot the oftner. *Merula* saith, that *Varro* gathered yearly five thousand pound weight of Honey: and that in a small Village of *Spain*, not exceeding one acre of ground, he was wont to gain by Honey there gathered, ten thousand Sesterces, which is of our *English* Coyn about fifty pounds. We are furnished also out of their workhouses or Shops, with Wax, *Sandriacha*, Bee-glew, Combs, and dregs of Wax, which no Common-wealth can well spare. To speak nothing of the examples of their vertues and noble properties, being no lesse wholesome for the soul, then these others are for the good provision and maintenance of our life, and for nourishment of our bodies necessary and commodious.

Now for the conservation of Bees, it is very meet (as *Pliny* writeth) that we come by them lawfully, and by honest means, that is, either by gift, or by buying of them; for being taken away by theft, they will not prosper with us, even as the hearb called Rue being stolne, will very hardly or never grow. Furthermore, to keep these good pay-masters, and to make them in love with you, you must remove from their Hives mouthes, unlucky, mischievous, and deceitfull people, and idle persons that have nothing to do, causing them to stand further off: As also all those that are disstayed with whoredome, or infected with the disease called Gonorrhoea, or the fluxe of menstres, bathes, or any thing that smelleth of smook, mud, dung, or ordure of Cattell, men or beasts, houses of Office, sinks, or kitchens. Mundifie and correct the air oftentimes, infected with the breath and vapour of Toads and Serpents, by burning of Balm, Thyme, or Fennel; having great care to keep them neat, clean and quiet. Destroy all Vermine, and seekers to prey upon their Honey, robbers, pillers and pollers, and if at any time they be sick, give them physick.

Now the signs of their unhealthinesse, as of all other living creatures, are known by three things; that is, from the action offended, the outward affect of the body, and excrements. For their cheerfulness being gone, sluggish dulnesse, a giddy and vertiginous pace, often and idle standing before the mouth of the Hive, lack of strength, wearinesse, litherness, languishing, and want of spirit to do any businesse, detestation of Flowers and Honey, long watchings, and continuall sleepings, unaccustomed noyses and hummings, are sure arguments, that Bees are not in good health. As also if they be somewhat rough, not fine and trim, dry and unpleasant in handling, not soft, harsh, and rugged, not delicate and tender, if their Combes be infected with any manner of

of filthy, corrupt, and noysome savour, and that their excrements melt, stink, and be full of worms, carrying dead carcases daily out of their houses, that they have no regard to their Bees and Bee-hives, it is a certain token that they are sick, and that some epidemical, generall Pestilence or plague rageth amongst them, whereof that famous Poet *Virgil* hath very elegantly, but confusedly touched some part, in the fourth Book of his *Georgicks*, in these following Verses.

*Si verò (quoniam lapsus Apibus quoque nostris
Vita tulit) tristi languebunt corpora morbo,
Illud non dubiis poteris cognoscere signis.
Continuò est agris alius color, horrida vultum
Deformat macies, tum corpora luce carentum
Exportant tegis, & tristia funera ducunt.
Aut illa pedibus connexa ad limina pendent,*

*Aut intus clausis cunctantur in ædibus omnes
Ignaveque fame, & contracto frigore pigre.
Tum sonus auditur gravior, traximque susurrant.
Frigidus ut quando silvis immurmurat auster,
Ut mare sollicitum stridet refluentibus undis,
Æstuat aut clausis, rapidus fornacibus ignis.*

In English thus;

*The life of Bees is subject unto fall,
Their bodies languish with diseases sad:
This by undoubted signs discern you shall,
Their bodies then with other colour is clad.
A leanness rough doth then deform their face,
Then doth the living bring dead bodies out,
And for their fellows make a funerall place,
Mourning sad exequies their dwellings all about.*

*Or else with feet in feet they hang upon
The threshold of their Hive, or else abide
Close within doors, not looking on the Sun,
Till sloth by cold and famine their life up dry'd:
Then also is their sound and voice more great,
Drawing soft, like a Southern winde in woods,
Or fire enclosed in burning furnace heat,
Or as int' Sea falls back the sliding floods.*

And so the sicknesses of Bees being evidently known, plainly perceived, and cured, they will live many yeers, although *Aristotle*, *Theophrastus*, *Pliny*, *Virgil*, *Varro*, *Columella*, *Cardan*, and finally all Authors, would make us beleieve, that they seldom attain to nine years, but never to ten. Although we know by good experience, knowledge of place, and the credible attestation of men worthy belief, that they have lived thirty years. Which only reason hath induced me to believe, that Bees (even by Natures appointment) are long lived, and that only with *Albertus* I only doubt, whether they die by means of old age.

I am not ignorant, how they are made away with the rage and violence of diseases, and other enemies, but if they have all things furnished fit for the preservation of their life, and prolongation of health, and the contrary far from them, I know no reason but that I should conclude them long lived, yea, more durable then any other living Creature, and never to die, but that I may not deny their time and turn to be mortall. For they only do feed upon Honey, that immortall Nectar, sent from heaven, and gathered from a divine dew (the very life and soul of all herbs, fruits, trees and plants.) Of whose nature, use and excellency, if you would know more, I must referre you to the learned writings of Physitians.

OF BEE S, called DRONES and THEEVES.

A Drone or a Dran in English, is of the Latines called *Fucus*, of the Greeks *Kephen*, and *Thronaz*, The Names, of the Illyrians *Czeno*, of the Germans *Traen*, of the Belgies *Besonder strael*, of the Spaniards *Zangane*, of the Italians, *Ape che non fa mele*, of the French *Baradon*, and *Fullon*, of the Panmonians (now called Hungarians) Here, of the Polonians *Czezew*. This kinde of Bee is called *Fucus*, as some think, *quasi Fur*, because he doth *furtim mella devorare*, devour Honey by stealth: although it be more agreeable to truth that it is termed *Fucus*, because he doth *Apibus fucum fraudemque facere*: And through the colour and pretence of keeping warm the Hives, he spendeth their stock and undoes all their Honey-making. And therefore for some to derive *Fucus* the Latin word from *Phagomai* the Greek, seemeth to be farre fetched: Some again will draw *Fucus*, à *fovendo*, quia incubando apum juvant saturas, and this in my minde is as harsh as the former.

Many men make the Drone to be one of the four sorts of Bees, which is very unadvisedly done, as some would make us beleieve: Because they bestow no pains in gathering the Honey, nor labour it thoroughly to have it perfectly wrought. He is twice so great as the common Bee, and greater then the Thief, so that in bignesse he eveneth, yea, surpasseth the King himself: and yet he attaineth unto this greatnesse, not by the gift of Nature, but by his custom and trade of life. For whereas Bees do prepare and make their Cells for the breeding of Drones: they make them lesser then the Drones, and not here and there through the Hive, but only in the uttermost, and as it were in the banished or most out-cast place of all in the whole Camp and lodged Army. Besides, the small Worms of the Drones are far smaller at their first bringing forth, then those that are of the Kingly race, and lineage of their Dukes: Who yet at length grow greater then any of them all, in regard that by labour and travail, they waste and diminish nothing of superfluous matter, and those grosse humours, wherewith they abound, as also that both day and night (like Oxen lying at Rack and Manger) they gluttonously raven and stufte themselves with the Honey-liquor, which they again pay for full dearly, in time of any general dearth and scarcity of victuall and provision.

Fur-

Further this is to be added, that the Drone is of a more shining black colour then the true labouring Bee, he is also greater then the greatest, without sting, sluggish, idle, slothfull, without heart or courage, cowardous, and unapt to war, not daring to venture life and limb in manly Martial trade, as the true legitimate Bees will.

Aristotle saith, that they breed and live amongst the true Bees, and when they fly abroad, they are carryed scatteringly, here and there aloft in the air as it were, with some violence or tempest; so exercising themselves for a time, they return from whence they came, there greedily feeding upon the Honey. Now why the Drones may be compared with the Dukes and Princes, in respect of their corporature, and Bees like unto them in their sting, let us hear *Aristotle's* reason. Nature would (saith he) there should be some difference, lest alwayes the same stock should encrease one of another confusedly, without order or consideration, which is impossible: For so the whole stock would either be Dukes or Drones. And therefore the true Bees in strength and power of engendering, and breeding, are comparable to their Dukes, and the Drones onely in greatnesse of body resemble them: to whom if you allow a sting, you shall make him a Duke. These Drones further of the *Grecians* are called *Cothouroi*, because he putteth not forth any sting: whereof *Hesiodus* hath these Verses thus interpreted;

*Arist. l. 3. de
gener. Anim.
c. 10.*

*Huic vero Dii succensent & homines quicunque otiosus
Vivat, fucis ac aculeo carentibus similis studio,
Qui apum laborem absument otiosi
Vorantes.*

In English thus;

Both God and men disdain that man
Which Drone like in the hive,
Nor good, nor ill, endeavour can
Upon himself to live,

But idle is, and without sting,
And grieves the labouring Bee
Devouring that which he home brings,
Not yeelding help or see.

So that either he hath no sting at all, or else maketh no use of it for revengement. *Pliny* saith flatly, that they are stingleffe, and would have them called imperfect Bees, and the famous Poet *Virgil* styleth them, *Ignavum pecus*: that is, idle, and unprofitable, good for nothing. *Columella* maketh them a race or stock of a larger size, very like unto Bees, and accounteth them very aptly to be placed in the rank of ordinary sorts of Creatures, of the same kinde and company with Bees. They suffer punishment and are scourged many times in the whole Bee-common-wealth, not only for pretence of idlenesse, gluttony, extortion, and ravenous greedinesse, to which they are too much addicted; but because lacking their sting, and by that defect, being as it were emasculated, they dare not shew themselves in publick.

Pliny doth not expresse their nature and quality. The Drones are stingleffe and so to be reckoned imperfect Bees, and of the basest sort, taking their Originall from tired and worn out Bees, and such as be past labour and service, living only upon a bare pension: we may call them the very slaves and bond-men of the true Bees, to whom they owe all due homage and subjection, wherefore they exercise their authority over them, thrusting them first out of doors by head and shoulders, like a company of drudges to their work; and if they be any thing negligent, not bestirring themselves quickly and lively, they give them correction, and punish them without all pity and mercy. For in the moneth of *June*, two or three Bees (especially of the younger sort) will hale out of the Hive one Drone, there beating of him with their wings, pricking and tormenting him with their stings, and if he offer any resistance to their Lordly rule, then they violently cast him down from the shelf or step whereon he holdeth, down to the earth as though they would break his neck. Thus when they have glutted their wills, and punished him at the full, they at length put him to a shamefull death, all which we have often beheld, not without great admiration and pleasure.

Sometimes the Drones remain like banished persons, before the entrance of the Hive, and dare not venture to presse in. For three causes specially the Bees do drive and cast out the Drones: either when they multiply above measure, or when they have not place enough left for their labourers, or that they be pinched with hunger and famine, for lack of Honey. And as they carry a deadly hatred against the Drones, so to make it more apparent they will not hurt such persons as offer either to take away with their bare hands any of the Drones, and to cast them away, yea, though they be in the greatest heat of their fight. *Aristotle* in his ninth Book, *De hist. Animal.* Cap. 40 affirmeth, that Bees are engendred apart one from another, if their Captain liveth: but in case their King and Captain dies, some say they breed in the Bees Cells, and that of all others of this kinde, they are the most noble and courageous.

Their generation.

The young Drones are bred without any King, but the true younger Bees never: for they derive their Originall and pedigree from the Kingly stock. Some will say that the young Drones do fetch their Originall from the flowers of the herb *Cerinth* (described by *Pliny*, which is a kinde of Honeysuckle, having the taste of the Honey and Wax together) from the Olive tree and Reed; but this opinion is weakly grounded, and standeth upon small reason.

Aristotle affirmeth, that they proceed from the longer and bigger Bees, yea, and those that are termed Thieves: which without question he received either from the ancient Philosophers, or some

some others that had the charge and were skilful of ordering Honey, that lived in his time. Some will have them to breed and come from putrefaction, as *Isidore* from stinking and putrefied Mules: *Cassian* from Asses, *Plutarch* and *Servius* from Horses. Othersome are of opinion, that they first proceed of Bees, and that afterwards they degenerate bastardlike from them, after they have lost their stings, for then they become Drones: neither are they afterwards known to gather any Honey, but being as it were deprived of their strength, they grow effeminate, ceasing either to hurt, or to do any good at all.

Some again hold the contrary side, assuring us upon their knowledge, that the true labouring Bee fetcheth his beginning from the Drone, because long experience (the Mistress of Wisdome) hath taught us, that there is yearly known to be the greater swarm, when there is the greater multitude of Drones. But this to me seemeth rather the devise and invention of some curious brain, than any true grounded reason. For because that many Drones breed (as it cometh always to passe in good and plentiful years) therefore there should be greater swarms, is no good consequent: but contrariwise, because the multitude of Bees do greatly increase through the moderatenesse of the pure air, and the plenty of the Honey-dropping dew, and through the abundance of this mellifluous moisture, there must needs follow a greater foison and store of Drones: as the Philosopher hath well observed. But admit that this be true, that whereas there is the greater encrease of Drones, there should yearly ensue the more swarmings: yet must we not thereupon conclude, that Bees do owe, and ought to ascribe their first original from Drones, but rather that they are indebted and bound in honesty to the Drones, because in time of breeding, they give much warmth and comfort to their young, (as *Pliny lib. 11. c. 11.* saith) conferring upon them a lively heat, fit for their encrease and prospering. Some divide them into male and female, and that by coupling together they make a propagation of their kinde, although (as *Athenæus* writeth) neither Drones nor Bees were ever yet seen of any one to couple together.

But whereas Wasps, Hornets, and other Cut-wasted creatures that make any combs, and breed in the same, have been sometimes (though seldom) seen, both by us and *Aristotle*, to joyn together, I can surely see no cause why we should utterly take from them the use of *Venus*, though in that respect they be very modest and moderate.

I have before in the discourse of their generation, said, that the Bees do make the male kinde, and the Drones to be but the female; but sith that in the of Honey-making, they punish them so sharply after they have ejected them from possession first, so that afterwards they put them to death, I can hardly be induced to believe that the Drones are but the female kinde, considering that one thing would eclipse and overcast all those resplendent vertues which all men know to be in Bees, to deal thus cruelly with their Parents. To what use therefore serve they in Hives? Seeing *Virgil* in the fourth book of his *Georgicks* thus describeth them;

Immunisque sedens aliena ad pabula fucus.

That is to say;

The Drones as free and bold doth sit,

And wast of others food commit.

Where *Festus* taketh *Immunis*, for lazy, idle, unserviceable, unprofitable, and such as are nothing worth, except perchance after the guise of wicked men, they so serve their own turns, as to live by the sweat of other mens labours, and to bring out of order, or utterly seek to overthrow the whole frame of the Common-wealth.

But the most approved Authors set down divers good use of Drones. For if there be but a few of them among the Bees, they make them the more careful about their affairs, and to look more duly to their task: not by their good example, (for they live in continual idlenesse) but because they might continue their liberality towards strangers, they work the more carefully in their Honey-shop. And (if *Bartholæus* do not deceive us) these Drones be not altogether idle: but they employ themselves about the building of the Kings House, which they make large, stately, and very sumptuous in the higher and middle part of the combs, being very fair to see to in respect of their covering.

So then they are but lazy, in respect of Honey-making and gathering: but if you look toward their Art or Science of building, they are to be accounted excellent devisers of the frame and chief Masters of the whole work. For as the Bees do fashion out the combs of the Drones nigh the Kings Palace: so again, for the like counterchange of kindenesse, the Drones are the sole inventors, and principal work-masters of the Kings Court; for which cause both they and their off-spring, kinsfolks and friends, (if they have any) are bountifully rewarded of the whole stock of Bees, by giving them frankly and freely their diet and maintenance which costeth them nothing.

The Lockers or holes of the up-grown Bees, are somewhat too large, if you respect the quantity of their bodies, but their combs lesser; for those they build themselves, and these other are made by the Bees, because it was not thought convenient and indifferent, so great a portion of meat to be given to such vile labourers and hirelings, as was due to their own sons and daughters, and those that are naturally subjects.

Tzetzes, and some other *Greeks* do besides affirm, that the Drones are the Bees Butlers or Porters to carry them water, ascribing moreover to them a gentle and kindly heat, with which they are said to keep warm, cherish and nourish the young breed of the Bees; by this means as it were, quickning them, and adding to them both life and strength.

The same affirmeth *Columella* in these words. The Drones further much the Bees for the procreation of their issue, for they sitting upon their kinde or generation, the Bees are shaped and attain to their figure, and therefore for the maintenance, education, and defence of a new issue, they receive the more friendly entertainment. And *Pliny lib. 11. c. 11.* differeth not from him. For not only they are great helpers to the Bees in any architectonical or cunning devised frame (as he saith) but also they do good in helping and succouring their young, by giving them much warmth and kindly heat, which the greater it is (unlesse there be some lack of Honey in the mean space) the greater will the swarm be.

In sum, except they should stand the Bees in some good stead, the Almighty would never have enclosed them both in one house, and as it were made them freemen of the same City. Neither doubtlesse would the Bees by main force violently break in upon them, as being the sworn and professed enemies of their Common-wealth, except when their slavish multitude being too much increased, they might fear some violence or rebellion, or for lack of provision: at which time who seeth not, that it were far better the Master work-men, free Masons, and Carpenters might be spared, then the true labouring Husbandman, and tiller of the earth? Especially since that missing these, our life is endangered for lack of meat, and other necessaries, and those other for a time we may very well spare without our undoing, and for a need every one may build his own lodging. But as they be profitable members, not exceeding a stinted and certain number, so if they be too many, they bring a sicknesse called the Hive-evil, as well because they consume the food of the Honey-making Bees, as for that in regard of their extream heat, they choke and suffocate them.

This disease is by the Author of *Geoponicon* thus remedied. Moisten with water inwardly the lid or covering of their Hive, and early in the morning opening it, you shall finde Drones sitting on the drops that are on the covers, for being glutted with Honey, they are exceeding thirsty, and by that means they will stick fast to the moist and dewie places of the cover: So that with small ado, you may either destroy them quite, or else if you please, take away what number you list your self. And if you will take away withall their young, who are not yet winged, and first pulling off their heads throw them among the other Bees, you shall bestow on them a very welcome dinner. But what the dreaning of Drones portended, and what matter they minister in the Hieroglyphical Art, let *Apomachus* reveal and disclose out of the Schools of the Egyptians and Persians. I think I have discharged my duty, if I have set down their true uses, true nature, generation, degeneration, description, and names.

Of Bees called
Theeves.

Fur in Latine, or Theef in English, is by *Aristotle* called *Phoor*, of *Hesychius* *Phoorios*: from whence I take the Latine word *Fur* to be derived. Some have thought that Theeves are one proper sort of Bees, although they be very great, and black, having a larger belly or bulk then the true Bee, and yet lesser then the drones, they have purchased this theevish name, because they do by theft and robbery devour Honey, belonging to others, and not to them. The Bees do easily endure, and can well away with the presence of the Drones, and do as it were greet and bid one another welcome, but the Theeves they cannot endure, in regard that the Bees do naturally hate them, for in their absence the Theeves privily and by stealth creep in, there robbing and consuming their treasure of Honey, so greedily and hastily (without chewing) swallowing it down, that being met withall by the true Bees in their return homewards, and found so unweildy by means of their fulness, that they cannot get away, nor be able to resist, but are ready to burst again, they are severely punished, and for their demerits by true Justice put to death. Neither thus only do they prodigally consume and spend the Bees meat, but also privily breed in their cells, whereby it often cometh to passe, that there are as many Drones and Theeves, as true and lawful Bees.

These neither gather Honey, nor build houses, nor help to bear out any mutual labour with Bees: for which cause they have Watch-men or Warders appointed to observe and oversee by night such as are over-wearied by taking great and undefatigable pains in the day time, to secure them from the Theeves and Robbers, who if they perceive any Theef to be stoln in a doors, they presently set upon him, beat, and either kill him outright, or leaving him for half dead, they throw him out. Oftentimes also it happeneth, that the Theef being glutted and over-cloyed with Honey, cannot flie away or get himself gone in time, but lyeth wallowing before the Hives entrance, until his enemies either in coming forth or returning home do so finde him, and so with shame, discredit and scoffing, scorn slay him.

Their uses.

Aristotle appointeth no office, charge or businesse to the Theef, but I think that he is ordained for this end, that he might be as it were a spur to prick forwards, and to whet and quicken the courage of the true Bees, when the other offer them any injury: and to stir and to encourage them to a greater vigilancy, diligence, and doing of right and justice to every one particularly. For I cannot see to what other purpose Theeves should serve in a Christian Common-wealth, or what use might be made of such as lie in wait to displeasure, and practice by crafty fetches, ambushes, and deceitful treacheries to wound their Neighbours, either in their estimation, credit, or goods. Thus having at large discoursed of the lesse hurtful and stinging sort of Bees, I will now apply my self to a more furiish, testy, angry, Wasplish, and implacable generation, more venomous then the former, I mean Wasps and Hornets.

OF WASPS.

A Wasp of the Chaldeans is tearmed *Deibrane*. Of the Arabians, *Zambor*. Of the Englishmen *D. Bonham*. Of the Germans, *Ein Wespe*. Of the Belgics, *Harfel*. Of the Gothes, *Bool Getingth*. The common people of Italy tearm it *Vespa*, and some of them do usually call it *Muscane*, and the Bononians, *Urespa*. The French, *Guespe*. The Spaniards, *Abispa*, and *Vespa*, imitating the Latines, who call it *Vespa*. The Polonians, *Ossa*. The Sclavonians, *Woff*. The Hungarians, *Daras*. *Calepine* saith, that it is called *Vespa*, quia *vesperi muscas venatur in cibum*. The Greeks do also name them diversly, for commonly they are called *Sphekes*. The Scholiast of *Nicander* calleth them *Lucaspades*; and *Suidas*, *Dellides*, and *Delithes*. Of *Hesychius*, *Auletai*, and *Passaleres*; and *Gaza* nicknameth them *Anthrenai*: for these ought rather to be called Bees. *Eustathius* deriveth *Tous spekas*, *apo tes diasphagon*, because they seem to be so much cut asunder in the waste or middle, as that they seem to gape and to be clean cloven asunder, as by the figure here set before your eyes you may plainly perceive. A Wasp is a kinde of insect, that is swift, living in routs and companies together, having somewhat a long body encircled, with four membranous wings, (whereof the two former are the greatest) without bloud, fringed inwardly, having also six feet, and a yellow colour, somewhat glistering like gold, garnished with divers black spots all over the body in form of a triangle. Whereupon peradventure *Pellio* would needs have it called *Diachrusos*.

The body of a Wasp seemeth to be fastened and tyed together to the midst of the breast, with a certain thin fine thread or line, so that by means of this disjoyned, and not well compacted composition, they seem very feeble in their loins, or rather to have none at all. Whereupon *Aristophanes* the Greek Poet, in his Comedy, entituled *Spheces* or Wasps, tearmeth all those Maids which are fine, slender, and pretty small in the waste, *Sphecodeis*, resembling them to Wasps, as if one should call them Wasp-wasted-wenches, whom *Terence* very quaintly and elegantly tearmeth *Junceas*, that is, slender, long, and small, like to a Bulrush. I think that all the whole pack of them have stings in general, although I am not ignorant that some Authors hold the contrary, affirming that the breeding female Wasps do want them: but thus much I can say of my own knowledge, that on a time finding a Wasps nest, and killing them every one by pouring hot scalding liquor into their holes, because I would bolt out the truth, I plainly perceived by long viewing of their bodies, that there was not one of them all but had a sting, either thrust out evidently, or closely and secretly kept and covered. So that:

— *Quid nobis certius ipsis*
Sensibus esse potest, quo vera ac falsa notemus?
 In English thus;
What can more certain be then sense,
Discerning truth from false pretence?

They make a sound as Bees do, but more fearful, hideous, terrible, and whistling, especially when they are provoked to wrath; from whence *Theocritus* fetcheth this proverb, *Sphex bomboom tettigos enantion*, that is, *Scilicet obstrepitans argute vespa cicada*: and this old said Saw may well be applyed to those who being themselves unlearned, will not stick to cry out, exclaim, and procure trouble to those that be more learned: or to such as be weak, feeble, and impotent persons able to do nothing, that will offer to contend with their betters and Superiors with their brawling speeches, and spiteful raylings. And this Latine proverb carryeth the same sense, *Catulus leonem adlatrans*. *Lucretius*.
In Hordiporis.

If you will have the gifts and ornaments of their mindes described, you must consider that a Wasp is a creature that liveth in companies together, one with another, subject to a civil government under one King or Ruler, industrious, mutual friends one to another, ingenious, crafty, subtle, quick, and cunning, of a very quarrelsome nature, and much subject to anger and testinesse. This is a good Argument of their Civil and Political manner of life, in that they live not solitarily in a Desert or Wildernesse where no man keepeth, but they build for themselves a City, both excellent and admirable for the notable buildings and houses in it, where they spend their time (for the most part) according to the mutable and never-failing laws of Nature, observing and keeping ever the Golden mean, as well in their daily tasks, as in their dispositions and affections of minde.

Besides, they are governed with a Kingly, not with a tyrannical government, (as *Aelianus* saith) although by nature they are great fighters, eager, boysterous, and vehemently tempestuous: and he is led to say this, because their Dukes or Generals are stinglese, or rather having stings as their subjects, they will not use the same to the hurt of their inferiors, by thrusting it forth, or striking in passion.

Now although they be twice so great, and harder and rougher then the other Wasps, yet are they not unfurnished of the vertue of patience and clemency, or gentle and debonair behaviour, by which means they keep in order, and contain in their lists, as it were by gentle language, their unruly rout, and mutinous companies. There is no man but will confesse, that this is an evident token and argument of their mutual love, and great good liking which they bear one to another: for whosoever dare be so knock-hardy as to come near their houses or dwelling places where

where they have to do, and to offer any violence or hurt to the same, at the noyse of some one of them, all the whole swarm rusheth out, being put into an amazed fear, to help their fellow-Citizen, and do so busily bestirre themselves about the ears of their molesters, as that they send them away packing with more then an ordinary pace: and if we will credit *Ælianus*, the *Phasellus* in times past were constrained to forsake their City, for all their defence, munition, and Armour, only through the multitude and cruel fierceness of the Wasps, wherewith they were annoyed.

Again, this manifestly proveth that they want not a hearty and fatherly affection, because with more then heroical courage and invincible fury, they set upon all persons, of what degree or quality soever, that dare attempt to lye in wait to hurt or destroy their young breed, no whit at all dreading *Neoptolemus*, *Pyrrhus*, *Hector*, *Achilles*, or *Agamemnon* himself, the Captain generall of all the whole *Grecians*, if he were present. Yea, the Divine Poet *Homer*, in 12. lib. of his *Iliades*, when he would expresse the haughty and generous spirits of the *Greekish* Chieftains, he likeneth them to Wasps in these words, *Spekessin ajolois cradien kai Thumon echousais*, that is, having the hearts and stomachs of Wasps, when they are to fight for their private dwellings, their dear Progeny and offspring. The love that Bees carry to their issue is great, but it cannot be greater then that of Wasps, neither can they have a greater promptitude, alacrity, or desire to defend their young ones, if they be any way offended by passengers. Which thing *Homer* in his *Iliads*, lib. 12. insinuateth by the example of the chafing god *Jupiter*, who took it marvellous angry, and much repined at the sturdy stomachs of the *Grecians*, adding, that the *Greeks* did defend themselves as valiantly, and endured the shock and assault of their enemies, as ever Wasps or Bees would in defence of their children or issue; in these Verses following;

Non enim ego putavi heros Achivos
Sustentaturos nostrum robur, & manus invictas:
Illi autem quasi visse acres atque apes,

That is to say,

I did not think our noble Grecian Lords could bear
Our force, and with unconquered hands maintain
Our right: but they like Wasps and Bees devoid of fear,
Which by high-ways their houses use to frame,

Quæ nidos faciunt ad viam pulverulentam,
Neque deserunt cavam domum: sed expectantes
Viros venatores pugnant pro filiis.

De not forsake their hollow dusty homes,
What ere they be that come to hunt them out:
Fighting with valor, (not fearfully like Drones)
To rid their young ones both from death and doubt.

Besides this, they further build for them very large dwellings, with Chambers and floors, in a round and orbicular form, with rooms one above another, finely and wittily compacted, so that there is space enough of ingresse and regresse, and very defensible against all windes and weather, and yet their nests or houses are not all made after one fashion, but very different, some of them representing a Harp, some made much after the fashion of a Pear, a Toadstool, a Bottle, or budget of Leather, and some like a standing Cup with handles.

Some affirm, that the matter of their Combes is confused, rude, and ilfavouredly heaped up, full of bark and sand, but I could never as yet see it otherwise then light, slender, and thin like paper, dry, transparent, gummy and thin, as though it were thin leaves of gold, shaken very easily hither and thither with the winde, and rising many times from the foot or foundation very small, and broad above like unto a Top. The place of this their building is divers, and much different for some respects. For if they have lost their Duke or principall Leader, then do they make them nests of clay in the high holes of walls and hollow Trees; and as some say (although hitherto I could never see it) they make Wax there also.

But in case they have a Generall or Duke, then they make their nests under the earth, their Cells or Chambers being formed with six angles or corners, much like unto Bees. They make their Combes round, much after the fashion of a broad Toad-stool, from whose centers there goeth forth as it were a short stalk or tying, by which the Comb cleaveth, and is fastened hard to the earth, or some tree, or peradventure to some other Combe. They have such a tender care over their females, (especially at such time as they are great with young) and suffer them so much to have their own wills, as they will neither permit them to take any pains abroad for their living, nor yet to seek for their meat at home: But the males flying about, (like good Purveyers) bring all home to their own dwellings, thereby as it were strictly enjoyning the females to keep themselves within doors.

All which fore-cited particulars, if a man would duly enter into consideration of them, he must needs confesse, (will he nill he) the admirable industry, diligence, wit, prudence, Art, sweat, and labour that is in these poor vermine. Their naturall inclination to anger, and the hasty fumes of Wasps, not only Cocks, which do scratch and scrape up with their spurs their nests, do finde implacable, but even all other disturbers and provokers: From whence I take it that proverb hath sprung, *Spekian erithizein*, which the *Latines* as *Plautus* almost in the same sense useth, *Irritare Crabrones*: For *Crabro* among the Poets, is used sometimes for a Hornet, and otherwhiles for a Wasp.

In like manner *Clemens Alexandrinus*, *Stromaton* 2. when he would expresse and declare the foulness and abominable hurt of such sins that do lie in wait as it were to deceive, and watch to do displeasure to the life of man, hath these words, *Houtoi gar (inquit) oi antagonistai pacheis koi*
Olympi-

Olympicoi, *ſphecon* hos *eipein* eſt *diimuterai*, *kai* *malista* *hedone*. That is, theſe fat, dull, groſſe, and Olympick enemies of ours, are worſer then Waſps, more cruel and diſpleaſant, and eſpecially ſenſuall and worldly pleaſure. Yea, whoſoever dare adventure to challenge into the field this hardy and couragious little Creature, he ſhall (I dare be bold to ſay) but *Cadmeam viſtoriam reportare*, loſe more then he ſhall get, whet his ſword againſt himſelf, and return home by weeping croſſe, conſidering that beſides the nobleneſſe of their ſtout ſtomacks, and armed ſtings, they are withall ſo ſtiſſe and obſtinate, as that they will never give over.

They differ alſo in their firſt breeding, ſtock, ſex, place, feeding, and manner of labour. *Iſidore* ſaith, (although perhaps not ſo truly) that Waſps do firſt proceed from the rotten Carcaſes of dead Aſſes: for all hold opinion, that the black Flies called Beetles, do take their Originall from them. But I am rather moved to think that they were firſt bred from the dead body of ſome warlike and fierce Horſe, and ſo alſo thinketh *Pliny*, in his eleventh book and twentieth Chapter. And the *Grecians* have uſually this famous and vulgar Verſe in their ordinary talk.

*Hippoi men ſphecon geneſis, Tauroi de meliſſon,
Equi enim veſparum generatio, Tauri verò Apum.*

In Engliſh thus;

Waſps do firſt come from Horſes, and Bees are bred from Bulls.

And ſurely their incredible ſwiftheſſe in their flight, their ardent and burning deſire they have to fighting, are ſufficient inducements to move me to think, that they took their firſt beginning from ſome gallant Horſe, and not from Aſſes, Oxen, or Cowes, and much leſſe from the fearfull Deer. For dame Nature hath ſeldome been ſo indulgent and friendly to any one beaſt beſides an Horſe, as to excell both in ſwiftheſſe of pace, quickneſſe of ſpirit, courage of ſtomack, and magnanimity. And I rather lean to this ſide, becauſe elſe I do not know what ſenſe I ſhould give to that *Ariſtotelean* Proverb;

*Chairete aellopodoon thugateres ippon,
Salvete volucripedum filia Equorum:*

Which may be Engliſhed thus;

All hail ye daughters of ſwiſt footed Horſes.

For beſides the truth that lyeth in the bare words, I take the morall of it to be uttered as a witty check, or a figurative ſhout, conceitedly to rebuke and hit in the teeth thoſe ſhrewd women, curſt and ſcolding wives, which are ſo peeviſh that they will not be pacified, who are like unto Waſps in their ſullen diſpleaſant humours, tempeſtuous madneſſe and pelting chafe.

Some Waſps do proceed from the ſtinking Carcaſe of a Crocodile, if we may give any credit to the *Egyptians* and their fellowes; and for that cauſe, when they imagine or think a Waſp, they paint and draw out the ſhape and form of a Crocodile or a Horſe. From hence *Hierom Cardan* would make this collection, that of every corrupted living Creature another doth proceed: which in my conceit is very abſurd and againſt all reaſon. For this being granted, the generation of Waſps would be infinite, and daily experience would read a Lecture of contradiction againſt him, upon the progreſſe of Natures works. Many times Waſps do breed by the mutuall company of the male and female together, which though *Athenens* counteth but a fable, yet for all that, ſith the Philoſopher doth plainly tell us, that he hath been an eye-witneſſe to the ſame, (as in his firſt book *De generat. Animal.* cap. 16. and in his ninth book *De hiſtor. Animal.* cap. 41.) I will wholly incline to his judgement. But what manner of beginning they have by joyning together, and how it is perfected and accompliſhed, let us a little lend our liſtning ears to *Ariſtotle*, and *Pliny* his Interpreter.

The Princes or Ring-leaders of the Waſps, when they have made choice of a fit place for themſelves under the earth, either in the holes, chinks, or clefts of the Rocks, or in thatched houſes, (as I have often ſeen) there they make their Combes in the beginning of Summer, faſhioning their ſmall Cells with four little doors, wherein ſmall Worms do breed, who when they are more grown, they make yet other greater doors or hatches, and then again when their young are at the greateſt, they make others, ſo that towards the end of Autumn, you ſhall finde many, and thoſe very large neſts; wherein their principal Commander doth breed, not with every Waſp indifferently, but only with thoſe of his own race and princely lineage. They are bred in the moſt eminent and higheſt place of the Waſp-neſt, like unto great Worms, their Cells being four or five in number, cloſe joyned and couched together, for otherwiſe they would increaſe after the ſame ſort in all reſpects, as the common Waſps do.

The excrement is only in the ſmall Worms, and their young increaſe remaineth immoveable without any ſtirring before they be able to flie, and whileſt they are covered as it were with a thin membrane, and yet in the ſame ſeaſon of the yeer, and in the ſpace of one day, you ſhall manifeſtly perceive a great difference: for one flyeth out, another ſticketh ſtill as it were in the ſhell, another rolleth and tumbleth, and a fourth cannot ſtir one whit. All theſe have their beginning and increaſe for the moſt part in Autumn, not in the Spring, and eſpecially in the full of the Moon. This one thing here is to be noted, that Waſps do not ſwarm, and that in Summer-time they are ſubject to Kings, and in Winter, *Gunaicorateia*, the females regiment, or *Muliebre imperium*.

imperium prevaileth. And when they have renewed and repaired their issue with a great supply, and that they be fresh and lusty, the Empire again returneth to the Masculine kinde, and yet it is but a short, brittle, and ruinous Empire, not able to bear up it self, although by Natures immutable decree orderly ruled, and rightfully governed.

Aristotle saith, that it is not likely that the young Wasps are brought forth as a brood, because they be so great in bulk, as that in reason it should not seem probable, that so small a flie as a Wasp, should have such great young ones. But this is a bare and weak reason, not befitting the dignity of so great a Philosopher. For what can any man alleadge to the contrary, why Nature in a lawful birth and breeding, should not as soon and as speedily finish, and make to grow and increase, as she doth in generation that proceeds of rottenness or corruption, which I hold to be but illegitimate? Let us but call to minde young birds, in how short time after they be out of the shell, they be feathered, they be able to go, to eat, yea quickly increased in strength, and grown to their full greatnesse, so that they are in their full flowre ere one be a ware. All which when one hath thoroughly considered, he will easily judge that famous Philosopher *Aristotle*, to have relyed but upon a weak prop, having scarce probability to stand on his side for the maintenance of his opinion. His credit therefore at this time must not be sufficient to barre us the liberty of contradicting him.

The same *Aristotle*, the Monarch of our modern learning, saith that the small worms of Wasps, before they have any wings at all, are somewhat long, not much unlike those worms which *Hippocrates* calleth *Eulai*, that breed in flesh, called (as I judge) Maggots, but in our Countrey, Gentiles: and these Waspsish worms are somewhat white, known and easily discerned by their flits or dashes, the hinder part of their body being very thick and grosse, having a black list or line running along their backs, without feet, not creeping, but rolling and tumbling themselves this way and that way confusedly. When they have disburthened themselves of their breed, they close up their cells with a certain thin small skin, which again being broken when they come to any perfection or growth, they get themselves out of dores into the clear light, and at two days end will be able to flie round about. The Philosopher maketh two kindes of Wasps, the one wilde and fell, the other more meek and quiet. The wilder sort is seldom seen, for they live and breed in Mountains and Woods, in Oke-trees, and not in the earth, and this kinde is greater, blacker, more diversly coloured, and stingeth more cruelly then the other. After they have lived one whole year, they are seen to flie away, if in the Winter the tree be cut down. These kinde of Wasps I did once see in a Wood in *Essex*, where going unwarily to gather simples with another Physitian, and offending one of this fummish generation, the whole swarm of them presently rushed forth about mine ears, and surely had I not had in my hand some sprigs or branches of broom for my defence, I had undoubtedly paid dearly for this my unadvisednesse, if it had not cost me my life, for they pursued me in every place of the Wood, with a vehement rage for a long season, insomuch that I was faine to take me to my heels, and so to seek to save my self from further danger. And if our own Countryman *Sir Francis Drake* himself had been there, although he was (as *Meteranus* a stranger, (and so unpartial) in his *Belgick History* right truly observed,) *Omnium ducum nostri seculi fortissimus ac famosissimus*, yet I make no doubt, but he would have taken my part, and been a companion with me in this my fearful flight.

Some of these Wasps, as well those of the crueller kinde as those of the gentler, do lack a sting, (or rather I think they use it not.) Othersome again of both sorts, are furnished with stings, and those that want them, are ever the lesser and weaker, neither revenging themselves any way, nor offering to make resistance. Contrariwise, those who have stings are greater, stronger, more quarrellous, contentious, stubborn and eager. Some account these the males, and those other stinglese to be the females. Many of those which have stings, do forgoe and quite lose them when Winter draweth on, as some make reckoning, but it was never my hap to see this, saith the Philosopher in his 9. Book *De hist. Animal. capit. 41.*

If you catch a Wasp, holding her fast by the feet, suffering her to make her usual humming sound, you shall have all those that lack stings presently come flying about you, which the stinged Wasps never are seen to do. Therefore some hold this as a good reason, to prove that the one should be the male, the other the female. Both these sorts, both wilde and unwilde, have been seen to couple together after the manner of flies. Besides, (in respect of sex) both kindes of Wasps are divided into Captains or Ring-leaders, and into labourers: those former are ever greater in quantity, and of more calm disposition; these other, both lesser, more froward, testy, peevish, and divers. The males of labourers, never live one whole year out, but all of them die in the Winter time, which is evident by this, because in the very beginning of cold weather, they are as it were frozen or benumbed, and in the depth or midst of hard winter, a man shall hardly or never see any of them.

But yet for all that, their Dukes or principal Chieftains, are seen all the Winter long to lie hid in their lurking holes under the earth: and indeed many men when they plowed or broke up the ground, and digged in Winter, have found of this sort. But as for the labouring Wasp, I never as yet heard of any that could finde them. Their Principal or Captain, is broader, thicker, more ponderous and greater then the male Wasp, and so not very swift in flight, for the weightinesse of their bodies is such an hinderance to them, that they cannot flie very far: whereby it cometh to passe, that they ever remain at home in their hives, there making and devising their combs, of a certain glutinous matter or substance, brought unto them by the Work-wasps: thus spending their time in executing and doing all those duties that are meet, in their Cells.

Wasps are not long lived, for their Dukes (who live longest,) do not exceed two years. And the labouring, that is the male Wasps, together with Autumn, make an end of their days. Yea which is more strange, whether their Dukes or Captains of the former year, after they have ingendered and brought forth new sprung up Dukes, do die, together with the new Wasps, and whether this do come to passe after one and the self same order, or whether yet they do and may live any longer time, divers men do diversly doubt. All men hold the wilder kinde to be more strong of nature, and to continue and hold out the longer. For why, these other making their nests neer unto common highways and beaten paths, do live in more hazard, lie open to divers injuries, and so more subject to shortnesse of life.

The brevity of their life, is after a sort recompensed, and some part of amends made by the rare clammy glewishnesse of the same: for if you separate their bulks from the head, and the head from the breast, they will live a long while after, and thrust out their sting almost as strongly as if they were undivideable, and free from hurt and deaths harm.

Apollonius calleth Wasps *Omoboroi*, and *Aristotle*, *Meloboroi*; although they do not only feed on raw flesh, but also on Pears, Plums, Grapes, Raisins, and on divers and sundry sorts of flowers and fruits; of the juyce of Elms, Sugar, Honey, and in a manner of all things that are seasoned, tempered, made pleasant, or prepared with either of these two last rehearsed.

Pliny in his 11. Book capit. 53. is of opinion that some Wasps, especially those of the wilder and feller kinde, do eat the flesh of Serpents, which is the cause that death hath sometimes ensued of their poysonous stinging. They also hunt after great flies, not one whit sparing the harmlesse Bees, who by their good deeds have so well deserved. According to the nature of the soyl and place, they do much differ in their outward form and fashion of their body, and in the manner of their qualities and dispositions of their minde: for the common Wasps being acquainted, and familiarly used to the company of Men and Beasts, are the gentler; but the Hermites and solitary Wasps are more rude, churlish, and tempestuous: yea *Nicander* tearmeth them *Oloous*, that is, pernicious. They are also more unhappy, dangerous, and deadly in very hot Countries, as *Ovidius* reporteth, and namely in the *West-Indies*: where both in their magnitude and figure, there is great difference betwixt theirs and ours, so that they are accounted far more poysonous and deadly, then either the *English*, *French*, *Spanish*, or *Barbarian* Wasps. Some of these dangerous generation do also abound in exceeding cold Countries, as *Olaus Magnus* in his 22. Book telleth us.

Their use is great and singular: for besides that they serve for food to those kind of Hawks which are called Kaistrels or Fleingals, Martinets, Swallows, Owls, to Brocks or Badgers, and to the Camelion: they also do great pleasure and service to men sundry ways, for the kill the *Phalangium*, which is a kinde of venomous Spider, that hath in all his legs three knots or joynts, whose poyson is perilous and deadly, and yet Wasps do cure their wounds.

Raynard the Fox likewise, who is so full of his wiles and crafty shifting, is reported to lie in wait to betray Wasps after this sort. The wily thief thrusteth his bushy tail into the Wasps nest, there holding it so long until he perceive it to be full of them, then drawing it slyly forth, he beateth and smiteth his tail full of Wasps against the next stone or tree, never resting so long as he seeth any of them alive; and thus playing his Fox-like parts many times together, at last he setteth upon their combs, devouring all that he can finde.

Pliny greatly commendeth the solitary Wasp to be very effectual against a Quartain Ague, if you catch her with your left hand, and tie or fasten her to any part of your body, (always provided, that it must be the first Wasp that you lay hold on that year) *Mizaldus* memor. Cent. 7. attributeth great vertue to the distilled water, and likewise to the decoction of common Wasps, affirming expressly, that if any part be therewith anointed, it straight ways causeth it to swell monstrously, and to be puffed up, that you would imagine them to be sick of a Dropsie: and this course crafty drabs and queans use to perswade their sweet hearts, that they are forsooth with childe by them: thus many times beguiling and blinding the eyes of wary and expert Midwives. Whereupon we may very confidently conclude, that their poyson is very hot, flatulous or windy. Some do prole after Wasps, and kill them by other sleights and devises. For when the labourers do much use and frequent Elms, which they do very often about the Summer solstice, to gather from them some gummy and clammy matter, their Dukes and Princes being at home, not standing still, but settling themselves to their businesse or trade, and helping to hatch up their young, they are suddenly choked with the fume of Brimstone, Garlick, the branches of Coleworts, or other pot-herbs, or else by breaking down and overthrowing their combs, they dye through famine.

When you are minded to defend the Bees from the invasion and spoil of Wasps, you must set a pot with some pieces of flesh in it neer the Hive, and when the Wasps (in hope of some prey) are entered, suddenly clap over the cover, and so destroy them, or else by pouring in some hot water at the top, you may scald them all to death in the pot. In like sort, some do gently breath upon Raisins, Fruits, Sugar, Honey, Oyl, by which, either the Wasps are chased away, or by tasting the Oyl do die. And again, some do mix corrosives with Honey, (as for example, *Sublimate*, *Vitriol*, *Auripigmentum*, &c.) that they by taking this venomous or poyson infected drink, may suffer condign punishment for their intemperate and insatiable gluttony.

Of the stinging of Wasps there do proceed divers and sundry accidents, passions and effects, as pain, disquieting, vexation, swelling, rednesse, heat, sweatings, disposition or will to vomit, loathing and abhorring of all things, exceeding thirstinesse, and now and then fainting or swoounding; especially

Mizaldus.

especially when after the manner of venomous creatures, they have infected their stings either by tasting the flesh of some Serpents, or by gathering their food from venomous plants.

Allens wife.

I will now set before your eyes and ears one late and memorable example of the danger that is in Wasps, of one *Allens* wife, dwelling not many years since at *Lowick* in *Northamptonshire*, which poor woman resorting after her usual manner in the heat of the Summer to *Drayton*, the Lord *Mordant's* house, being extreemly thirsty, and impatient of delay, finding by chance a black Jack or Tankard on the Table in the Hall, she very inconsiderately and rashly set it to her mouth, never suspecting or looking what might be in it, and suddenly a Wasp in her greedinesse passed down with the drink, and stinging her, there immediately came a great tumor in her throat with a rednesse, puffing and swelling of all the parts adjacent; so that her breath being intercepted, the miserable wretch whirling herself twice or thrice round, as though she had had some *Virtiginy* in her brain, presently fell down and dyed. And this is known for a truth, not only to me, but to most of the Inhabitants thereabouts, being as yet fresh in their memories, and therefore their authorities as I take it, is unrepoveable.

Salomon.

Now, for fear lest I should lose my self in this troublesome and vast Ocean of Natures admirable fabricature, I will now discourse of such medicinal means, as will defend from their furious malice. The vertue of Mallows, and of *Althea*, (called *Marsh-mallow*) is notable against the prickings of Wasps. For the softest and most emollient herb, is applyed as a contrary to a warlike and hurtful creature, whose juyce being anointed with Oyl, either abateth the rage of Wasps, or so blunteth and dulleth their sting, that the pain is not very sharp or biting. *Pliny lib. 21. capit. 171.* And of the same minde is *Avicen*: Wasps (saith he) will not come near any Man if he be anointed with Oyl and the juyce of Mallows. For as a soft answer doth *frangere iram*, and as the *Grecians* have a saying, *Edus Megiston est in orges pharmakon logos*: So also in natural Philosophy we see, that hard things are quailed, and their edge even taken off with soft and suppling: as Iron with a fine, small, and soft feather, the Adamant stone with bloud, and the sting of Wasps, Hornets and Bees, with Oyl and Mallows.

What is softer then a Caterpillar? and yet if *Aetius* credit be of sufficiency, the same being beaten with Oyl, and anointed upon any part preserveth the same from the wounds and stings of Wasps. And of the same vertue is the herb called Balm, being stamped and mixed with Oyl. The same symptomes or accidents do follow the stinging of Wasps, as of Bees, but far more painful, and of longer continuance, to wit, rednesse, and intolerable pain, and Apostumes. And if any be stricken of the Orange or yellow coloured Wasps, especially in a finewy or some sensible part, there will follow a Convulsion, weaknesse of the knees, swoounding, yea, and sometimes death, as before I have touched.

The curation of their stings.

Gilbertus Anglus.

Against the stinging of Wasps divers medicines are prescribed by Physitians, but I will speak of such only as I have made proof of, and such as are confirmed by long experience. *Gilbert the Englishman*, saith, that Wasps being bruised and applyed to the place affected, do cure their own wounds very strangely. The same vertue peradventure, not only the Scorpion, but the greater part of Insects have, if any one would make any diligent trial thereof. If a man be stinged of any venomous Wasps (which is easily known by the blewnesse of the place, madnesse, raving and fainting of the party, and coldnesse of the hands and feet) after you have given him inwardly some *Alexipharmacal* medicine, the place agrieved must be lanced, or rather opened with a Cautery, so being thus enlarged and opened, the venom must be well sucked out, and the paring or shaving of that earth wherein the Wasps build their nests, must be wrought and kneaded with Vinegar, and so applyed like a Cataplasim.

Haly Abbas.

A plaister also made of Willow-leaves, Mallows, and the combe of Wasps, is very medicinable for the same, as by the counsel of *Haly Abbas* I have experimented. The *English* Northern men, do prepare most excellent emplaister worth gold, against all stings of Wasps, only of that earth whereof their Ovens are made, having Vinegar and the heads of Flyes commixed therewith. Let the place be very well rubbed with the juyce of Citrals, and withall, let the party that is pained drink of the seed of *Marjoram* beaten to powder the quantity of two drams: or thus, Take of the juyce of *Marjoram* two ounces, of *Bole Armony* two drams, with the juyce of unripe Grapes so much as is sufficient, make an emplaister. Another. Anoint the place with the juyce of *Purcelane*, Beets, or sweet Wine, and Oyl of Roses, or with Cows bloud, or with the seeds of the Spirting or wilde Cucumber (called *Noli me tangere*) beaten with some Wine. Thus far *Galen*. Barley Meal wrought up with Vinegar, and the Milk or juyce of a Fig-tree, Brine, or Sea-water, are excellent for these griefs (as *Dioscorides lib. 8. cap. 20.* writeth) if the wound be often fomented, bathed, or soaked with any of them. To drink, give two drams of the young and tender leaves of Bays with harsh Wine, and if the part affected be only anointed with any of these, they are much available. In like sort the decoction of *Marsh-mallows* drunk with Vinegar and water, are much commended, and outwardly salt with Calves fat: Oyl of Bays draweth out the poyson of Wasps. The leaves of *Marsh-mallows* (as *Aetius* saith) being bruised and applyed, do perform the same.

The juyce of Rue or Balm, about the quantity of two or three ounces drunk with Wine, and the leaves being chewed and laid on with Honey and Salt, or with Vinegar and Pitch, do help much. Water-creffes, Rosemary, with Barley meal, and water with Vinegar sod together, the juyce of Ivy leaves, Marigolds, the bloud of an Owl, all these are very effectual against the stings of Wasps: as *Pliny lib. 31. cap. 9.* telleth us; the buds of the wilde Palm-tree, Endive with the root, and wilde

Thyme

Thyme being applyed plaister-wise, do help the stinging of Wasps. After the venom is drawn out by sucking, the place affected must be put into hot water the space of an hour, and then suddenly they must be thrust into Vinegar and Brine, and forthwith the pain will be asswaged, the tumor cease, and the malice of the venomous humor clean extinguished. *Rhazes* saith, that the leaves of Nightshade, or of Sengreen, do very much good in this case. And in like sort Bole Armony with Vinegar and Camphire, and Nuts beaten with a little Vinegar and *Castoreum*.

Also take the Combe with Honey applying to the place, and hold the grieved place neer the fire immediately, and laying under them a few ashes, binde them hard, and forthwith the pain will be swaged. *Serapio* saith, that Savory, or Cresses applyed, and the seed thereof taken in drink, and the juyce of the lesser Centory mixt with Wine, are very meet to be used in these griefs; he also commendeth for the same purpose the leaves of Basil, the herb called Mercury, and Mandrakes, with Vinegar. *Ardoynus* is of opinion, that if you take a little round ball of Snow, and put it into the fundament, the pain will cease, especially that which proceedeth by Wasps. Let the place be anointed with Vinegar and Camphire, or often fomented and bathed with Snow-water. Take of *Opium*, of the seed of Henbane and Camphire, of each alike much, and incorporate them with Rose-water, or the juyce of Willows, and lay it upon the wounded place, applying on the top a linnen cloth, first thoroughly wetted in wine. *Johannes Mesue* (who of some is called *Evangelista medicorum*) prescribed this receipt of the juyce of *Sisymbrium* two drams and a half, and with the juyce of *Tartcitrons* make a potion. The juyce also of *Spina Arabica*, and of Marjoram are nothing inferiour to these forementioned. *Aaron* would in this grief have water Lintels (called by some Ducks mear) to be stamped with Vinegar, and after to be applyed.

Constantine assureth us, that *Alcama* tempered with Barley meal and Vinegar, and so bound to the place, as also Nuts, leaves of Wall-nuts, and Blets, are very profitable in this passion. Item, apply very warm to the wound a Spiders web, bruised with a white Onion, and sufficient Salt and Vinegar, will perfectly cure it. *Guil. Placentinus* will warrant, that a plate of cold Iron laid upon the wound, or Lead steeped in Vinegar, will do the deed. *Gordonius* counsel is to rub the place with Sage and Vinegar, and afterwards to foment it with water and Vinegar sod together. *Varignana* would have us to apply Chalkin powder, and inwardly to take the seeds of Mallows boiled in Wine, Water, and a little Vinegar.

Matthiolus much commendeth Sperage being beaten and wrought up with Honey, to anoint the place. Likewise flies beaten and anointed on the place, winter Savory, Water-cresses, with Oyl of *Momerdica*, give most speedy help. *Arnoldus Villanovanus* assureth us, that any fresh earth, especially Fullers earth, is very available, and the herb called *Poley*, used as an Unguent, or else Goats milk. And *Marcellus Empiricus* is not behind his commendations for the use of Bullocks dung, to be applyed as a poultesse to the stinged part.

These and many others may any Man ascribe that hath had but an easie tast of the infinity of Physicks speculation, for the store-house of Nature, and truly learned Physitians, which way soever you turn you, will minister and give sufficient store of alexiterial medicines for the expulsiſg of this grief. In conclusion one and the self same medicament will serve indifferently for the curation of Wasps and Bees, saving that when we are stung with Wasps more forcible remedies are required, and for the hurts that Bees do us, then weaker and gentler are sufficient. In the hundreth and nintieth year before the birth of our blessed Saviour, an infinite multitude of Wasps came flying into the Market place at *Capua*, (as *Julius* witnesseth) and lighted on the Temple of *Mars*, all which when with great regard and diligence they were gathered together and solemnly burnt, yet for all that they presignified the coming of an enemy, and did as it were fore-tell the burning of the City, which shortly after came to passe. And thus much for the History of the Wasp.

OF HORNETS.

A Hornet is called of the Hebrews, *Tsirbah*. Of the Arabians, *Zabor*, and *Zambor*. Of the Germans, *Ein hornauff*, *Horlitz*, *Froisln*, *Ofertzwuble*. Of the Flemings, *Horsele*. Of the Frenchmen, *Trelons*, *Foirlons*. Of the Italians, *Calauron*, *Crabrone*, *Scaraffon*, and *Galanron*. Of the Spaniards, *Tabarros* & *Moscados*. Of the Illyrians, *Irsen*. Of the Slavonians, *Sierszen*. Of us Englishmen, Hornets, and great Wasps. The Grecians call them *Anthrénas*, and *Anthrenois*, because with their sting they raise an *Anthrax* or Carbuncle, with a vehement inflammation of the whole part about it. The Latines call them *Crabrones*, peradventure of *Crabra*, a Town so named in the Territory of *Tusculanum*, where there is great plenty of them: or it may be they are tearmed *Crambrones* of *Caballus* (a Horse) of whom they are first engendered: according to that of *Ovid*, 15. *Metamorphos*.

Pressus humo bellator equus Crabronis origo est.
That is to say;
When War-horse dead upon the Earth lies,
Then doth his flesh breed Hornet flies.

Albertus tearmeth a Hornet *Apis citrina*, that is a yellow or Orange coloured Bee. *Cardan* laboureth much to prove that dead Mules are their first beginners. *Plutarch* is of opinion, that they first

Their descrip-
tion.

first proceed from the flesh of dead Horses, as Bees do out of a Bulls belly: and I think that they have their breeding from the harder, more firm and solid parts of the flesh of Horses, as Wasps do from the more tender or soft. Hornets are twice so great as the common Wasps, in shape and proportion of body much resembling one another. They have four wings, the inward not being half so large as the outward, being all joyned to their shoulders, which are of a dark, brownish, and of a Cheltnut-like colour, these wings are the cause of their swift flight: they have also six feet of the same colour and hew, that their breast and shoulders are of. There is somewhat long, of the colour of Saffron, their eyes and looks are hanging or bending downwards, crooked and made like a half Moon, from which grow forth two peaks like unto Sithes or two sickles, nothing varying in colour from their feet. Their belly is as though it were tyed to their shoulders with a very fine thred, the forward and middle part whereof is overcast with a brown colour, and begirt as it were with a girdle of Saffron. The hinder part is altogether yellow, easily discerned and remarkable for those brown pricks or specks, every one of them being much like unto a small triangle, besides they have certain clefts or flits on both sides, both before and behinde, by which they can at their pleasure when they list, either shrink up themselves, or draw and gather themselves together, and with the same again lengthen and stretch out their bodies. They have also neer to their belly on both sides four black spots, and in their tail they are armed with a strong piercing sting, and the same very venomous. They make a sound or a buzzing strange noise, more hideous and dreadful then Wasps do. They are shrewd, fierce and cruel, quickly angry and wrathful, and although they live in companies together, yet notwithstanding they are ever known to be but of an homely, rude, curst, and untractable disposition and nature, and will never be brought by any Art or fashioning to lay aside their uplandish wildnesse, (as some herbs will do that are transplanted into Gardens.)

They are besides this of such a mischievous malignity and venomous quality, that as some affirm, nine of their stings will kill a Man, and three times nine will be able to kill a strong Horse; especially at the rising of the Dog-star, and after, at which time they have a more fiery, halty, and inflaming nature, and men at that season, by reason of their large exaltation and sending forth of spirits, grow more weak and faint.

And therefore it is no marvail though in holy Scripture, they are compared or likened to most fierce and cruel enemies, which should put and cast forth the *Canaanites*, *Hittites*, and *Chevites*, *Exod. 23. 28.* So likewise *Ovid* in the eleventh Book of his *Metamorphos.* hath these words, *Spicula carbo-num ardentia*, The burning stings of Hornets: And *Virgil* in the fourth Book of his *Georgicks*, calleth them *Asperima*, most sharp and violent. *Terence* (the most eloquent of all Comical Poets) in his Comedy intituled *Phormio*, and *Plautus* in his *Amphitryo*, have this Proverb, *Iritavi crabrones*, I have provoked or incensed the great Wasps to anger: which I suppose they used as a by-word against the properties, natures, and froward behaviours of women, who being in their wonted fuming mood, if once you go about to overthwart them, or a little to contrary their wilfulnesse, you shall pull an old house over your own head by a further provocation, and perhaps if you get you not the sooner out of their sight and reach of their clutches, you may chance have somewhat more flying about you ears then you would.

It is good therefore if you have a Wife, that is *Calcato immitior hydra*, unquiet and contentious, to let her alone, not to wake an angry Dog: and when a mischief is well quieted and brought asleep, to go your ways and say never a word. Whereas among Bees, their Drones and Kings do want stings; yea, and some Wasps too, as before I have writ: yet notwithstanding all Hornets in general, as well the greater sort of them that build their houses in trees, as the lesser sort that dwell in the earth, are provided of stings, neither do their Ring-leader seem to be unarmed. For Wasps have their Presidents of their own society, and their Captains general as well as Bees and Wasps, whatsoever *Pliny lib. 11. cap. 21.* dream to the contrary: which in proportion and quantity are far greater (if you respect the bodies of other Hornets) then either the Captains of the Bees and Wasps are in comparison of their subjects. These also spend their time within doors, as the Captain of Wasps do, not having many but one head to guide and rule over them, left by banding into parties and factions, some civill war (wherein all things are miserable, as *Tully* saith) or other mutiny might arise to their final destruction. They are great vexers and troublers, and even like such as had sworn the death of their enemies, robbers, and thieves: And yet at home they nourish peace, excelling even the very Bees themselves in their painful, earnest, and willing desire to maintain their stock and common society.

For neither do they chide, brail, or contend, nor yet make any stir or rustling when any is promoted to any office or place of preferment in their corporation; neither are they distracted into divers mindes with their businesses, neither yet do they raise any tumult, make any uprore, or keep a coil or rustling at the election of their Prince and Captain general, but with common consent they use but one Table, taking their commons together like good friends and fellows, and whatsoever they kill, they carry some part of it home, frankly imparting it to their neighbors, children, and companions.

Neither do they yearly drive and expel forth of the doors to seek new habitations, where they can, (as some Bees deal very churlishly and unnatural with their young) but they contrarywise in their bosome defend and keep warm their new springed up progeny and race, building for them greater Houses, and raising of more Sellers and stores, bording and planking the same in case of necessity, never ceasing till they be fully rear'd and made fit for defence and safety. But as for their

King

In bellis civili-
bus omnia sunt
misera. *Tul. ep.*
femal.

King and Captain (whom they exceedingly honor and highly esteem) they make choyce of such a one, as neither seemeth to be a King without a Kingdom, nor a Prince without people and possessions, and yet he so behaveth himself, and carryeth himself so evenly, as though he had but little to do in this his Empire. And yet in largenesse of body and greatnesse of his heart, in stoutnesse and statelinesse of stomach and person, he staineth all the rest, carrying away the prize from them all: and when there is Proclamation of War to be made against any forain foes, and that their flags and ancients be displayed by sounding his deadly blast, he giveth defiance to his enemies, most courageously bestirring himself more then any of his followers, shewing himself both most vehement, warlike, and skilful in fight, and yet again at home towards his subjects, (like a true noble spirit) he is very gracious, gentle, and temperate, tractable, easie to be intreated, and most ready to forgive. They make for themselves certain holes or dwelling places under the ground, casting forth the earth much after the fashion of Pismires: for you must understand that neither Wasps nor Hornets do send forth any Swarms as Bees do, but those young Hornets which spring from them now and then, do there remain among their breeders, making their beds or hives much greater, by means of the earth formerly cast out.

They enlarge their combs exceedingly, by adding more and more unto them, so that of a strong and healthy stock of Hornets, it hath been known they have gathered three or four trays or baskets full of combs. If any Hornets stray from their own home, they repair to some tree, and there in the top of it make their combs, so that one many times may very easily and plainly perceive them, and in these they breed one Captain General, or great Commander, who when he is grown to be great, he carryeth away the whole company, placing them with him in some convenient lodging. Wilde Hornets (as *Pliny* saith) do live in the hollow trunks or cavities of trees, there keeping themselves close all the Winter long, as other Cut-wasps do.

Their life is but short, for they never exceed the age of two years. Their combs are wrought with greater cunning, more exquisite Art, and curious conceit, then those either of Wasps or Bees, and these excellent devisers do make them one while in the trunks of trees, and sometimes again in the earth, encreasing them at their pleasure with more floors and buildings, according to the encrease of their issue, making them smooth and bright, decking and trimming them with a certain tough or binding slime or gelly gathered from the gummy leaves of plants. Neither do any of the little mouths or entries of their cells look upwards, but every one bendeth downwards: and the bottom is placed upwards, lest either the rain might soke through them in long showers, or the head of them being built upwards, they might lie open and be the more subject, and exposed to the unruly rage and furious blasts of windes and storms.

If you eye well their nests, you shall finde them all for the most part exactly sexangular or six cornered, the outward form and fashion whereof is divided with a murry coloured partition: and their membranous substance is much like unto the rinde or bark of Birch, which in the parching heat of Summer cleaveth and openeth it self into chaps. The stinging of Wasps is for the most part accompanied with a Fever, causing withal a carbuncle, swelling, and intolerable pain.

I my self being at *Duckworth* in *Huntingtonshire*, my native soyl, I saw on a time a great Wasp or Hornet making after, and fiercely pursuing a Sparrow in the open street of the Town, who at length being wounded with her sting, was presently cast to the ground, the Hornet satisfying her self with the sucked blood of her quelled prey, to the exceeding admiration of all the beholders and considerers of this seldom seen combate. *Aristotle*, whom I so greatly reverence, and at whose name I do even rise and make curtesie, knows not of a surety how Hornets do engender, nor after what manner they bring forth their young breed. But since we are assured of this, that they bring forth their young by the sides of their Cells, as Wasps and Bees, we need not doubt, but that they do all other matter after their manner, and if they couple together, they do it by night, as Cats do, or else in some seeret corner, that *Argus* with his hundred eyes can never espy it.

Hornets gather meat not from flowers, but for the most part they live upon flesh, whereby it cometh to passe, that you shall often finde them even in the very dunghills, or other ordure. They also proul after great Eyles, and hunt after small Birds, which when they have caught into their clutches, after the manner of hungry Hawks, they first wound them in the head, then cutting it asunder, or parting it from the shoulders, carrying the rest of the body with them, they betake themselves to their accustomed flight. The greater sort of them die in the hard Winter, because they store not themselves sufficiently aforehand with any sustenance as Bees do, but make their provision but from hand to mouth, as hunger enforceth them, as *Aristotle* enformeth us. In like sort *Landius* hath well observed, that Hornets both day and night keep watch and ward besides the hives of Bees, and so getting upon the poor Bees backs, they use them instead of a Waggon or carriage: for when the silly Bee laboureth to be discharged of his cruel Sitter: the Hornet when he hath sucked out all his juyce, and clean bereft him of all his moisture, vigour and strength, like an unthankful Guest and the most ingrateful of all winged creatures, he spareth not to kill, and eat up his fosterer and chief maintainer.

They feed also upon all sweet, delicious, and pleasant things, and such as are not untoothsome and bitter, and the *Indian* Hornets are so ravenous, and of such an insatiate gluttony (as *Ordinus* reporteth) that they flie upon Oyl, Butter, greasie Cooks, all sorts of sharp sawce used with meats, and all moist and liquid things, not sparing the very Napkins and Table clothes, and other linnen that is any way soiled, which they do filthily contaminate with the excrements of their belly, and with their Viscous laying of their egges.

Their uses.

But as they get their living by robbery, and purloining of that which others by the sweat of their brows, by their own proper wits and invention, and without the aid and help of any do take great pains for: so again they want not revenge to punish, and a provost Marshal to execute them for their wrongful dealings: teamed of some a Gray, Brock, or Badger, who in the full of the Moon maketh forcible entrance into their holes or lurking places, destroying and turning topsie-turvy in a trice their whole stock, family, and linage, with all their household stuffe and possessions.

Neither do they only minister food to this passing, profitable, and fat beast, but they serve in stead of good Almanacks to Countrey people, to foretell tempests and change of weather, as Hail, Rain, and Snow: for if they flie about in greater numbers, and be oftner seen about any place, then usually they are wont, it is a signe of heat and fair weather the next day. But if about twilight they are observed to enter often their nests, as though they would hide themselves, you must the next day expect rain, winde, or some stormy, troublesome or boysterous season: whereupon *Avienus* hath these verses;

*Sic & crabronum rauca agmina si volitare
Fine sub Autumni conspexeris aethere longo,
Jam verspertinos primos cum commover ortus
Virgilius, pelago dices instare porcellam.*

In English thus;

*So if the buzzing troup of Hornets boarse to flie,
In spacious air bout Autumns end you see,
When Virgil star the evening lamp espie,
Then from the Sea some stormy tempest sure shall be.*

Remedies
against their
stings.

Furthermore, since it is most certain that those remedies which do heal the stings of Wasps, do also help those wounds and griefs which Hornets by their cruel stinging cause, yet notwithstanding, as *Aggregator* hath pronounced, the Zabor is the Bezoar, or proper antidote of his own hurt, if he be oftentimes applyed with Vinegar and Water, Oyl and Cow-dung tempered together. In like sort all manner of soils and earths that are miry and muddy, are much commended in this case, such as *Bacchus* applyed to bald *Selenus*, who was wounded with Hornets, when longing for a little Honey, he jogged and shaken their nests, thinking he had lighted upon some Bees Honey, which *Cvid* most elegantly 3. *Fastum* hath described in these verses;

*Millia crabronum coeunt, & vertice nudo
Spicula desigunt, ora; prima notant.
Ille cadit praeceps, & calce feritur a selli:
Inclamat socios, auxiliumq; vocat.*

*Concurrunt Satyri, turgentiaq; ora parentis
Rident, percusso claudicat ille genu.
Ridet & ipse Deus, limumque inducere monstrat;
Hic parat monitis, & limi ora luto.*

In English thus;

*Of Hornets thousands on his head full bare,
And on his face their poison'd spears stick fast,
Then headlong down he fell, and Asses foot him smote,
Whiles he for help his voyce to fellows cast.
The Satyres flock came run apace, and did deride
Their fires swollen mouth, whiles Ass had made him lame.
The God himself did laugh, yet shewed an earth to hide
The wound which he received, and so did heal the same.*

If any one be desirous of more medicines against the perillous and transpiercing stinging of these horn-mad Hornets, he shall finde store of them digested together in the History of Wasps: for their remedies are common, belonging as well to the one as to the other, there being no other difference but this, that here they must be given in a greater measure or quantity, and their use ought longer to be continued. And let this suffice to have spoken thus much of such Insects or Cut-wasted vermine as are winged, and live in companies and routs together. Now will I make choice to describe such as are winged and live solitarily, lest I should seem to lose my self in this troublesome and vast Ocean of Physical contemplation.

Of CANTHARIDES or Spanish Flies.

This kinde of Cut-wast is called of the Grecians, *Kantharis*, and among the Latines it changeth not his name. Of the Frenchmen, *Cantharide*. Of the Italians, *Canarella*. Of the Spaniards, *Cubillo*. Of the Germans, *Grune Kifer*, *Goldkaefer*. Amongst the Belgies or Netherlanders, it is termed *Spaensche Vlieghe*; and of us English men, *Cantharides*, and *Spanish Flies*. I have seen two sorts of *Cantharides*, the one great, and the other small. Of the greater sort some are thick, and long bodied, which are found among wheat, and these are thick, grosse, and unwieldy, like unto Beetles, they are also of sundry colours, and changeable hew, with golden streaks or lines crossing their wings, and these are best to be used in Physick. They of the other lesser kinde, are lean and thin

scrag

scraggs and starvelings, broad, hairy, heavy, and sluggish, and for physical uses little worth.

The greater sort also are not always of a glittering green colour, but otherwhiles you shall have them somewhat reddish or murrey coloured, but yet all of them of a glittering brightnesse, and marvellous shining glosse, piercing the eyes with singular delight. The lesser sort are not so common as the greater, somewhat differing from them in shape and proportion of body, but in vertue, quality, and manner of breeding, there is no disagreement at all to be found.

Those of the lesser sort have their bodies and heads somewhat long and hooked, their eyes very black, and hanging out, their wings growing out from the midst of their Loyns, being marked with two silver specks or pricks, and some few white spots.

They are commonly found in the Summer Season, in the herb that is called *Cicutaria*, or wilde Hemlock. Their feet and legs are very small and long, finely decked and garnished, as it were with a Vermillion red, or beautiful purple. There is also another sort of these answerable to the former, in colour of their bodies in every respect, saving that their eyes are green: their head very little; and the hinder part of their shoulders round and crooked.

The third sort have their head and shoulders all one, being so closely and confusedly joyned together, as if they were but one thing and could not by any means be separated, unlesse in imagination, and these are of a rusty colour, and their small pink eyes as black as Jet, their wings as well as their heads are nothing differing in colour, saving that their wings do glitter with some strakes of the colour of gold, their feet also are short, and as black as Pitch.

The fourth is very like to the third sort, but it is rather of a greenish, then of a rusty Iron colour, but in all other respects there is no difference to be seen, saving in their magnitude, for this last described is the least of them all. But these kindes of *Cantharides* as well the greater as the lesser, do first proceed not from any beasts, as some have thought, but they rather take their Original from some rotten, stinking, and corrupt moisture and siccity, *Titeſtai gar en tois toon paroon leisiois kai tan ageirai, kai tous Sukais profeti to toon Kantharidoom phulon*, the meaning whereof is, that the whole stock and kindred of *Cantharides* do bring forth or lay their young in the vile, base, and imperfect force of heat or warmth: and further in moist Figs, as *Aelianus* in his ninth Book and thirty nine Chapter, word for word hath exscribed out of *Aristotle*.

They do also breed from a certain little Worm which is found in the sponge of the Dog-bryer (called of the Physitians *Bedeguar*) and from Caterpillars of the Fig-tree, Popler, Pear-tree, Ash, Olive-trees and Roses: for in all these there be found certain Worms, the very Founders and Parents of *Cantharides*, but yet in the white Rose these Worms are of much lesser force, power, and sufficiency, then in the former.

Cantharides do couple together and generate, but yet not any living creature of their own kinde, but only a little small Worm. They feed upon all manner of pulse and Corn, but especially Wheat, and then they are best for medicinal uses. The smell like unto Tar, and in their taste they much resemble the Cedar-tree, as *Nicander* reporteth. Their vertue and quality is to burn the body, to parch and to bring a hard scale or crustinesse upon any part they shall be applyed to, or as *Dioscorides* saith, to gnaw or eat into, to raise blisters, exulcerate and raise an inflammation, for which respect, they mix them with such medicaments as are appointed to heal Leprosies, any dangerous Tetters and Ring-worms, or those that be Cancrous.

They are applyed to hard, Scurvy, or Mangy nails, being first tempered with some fit plaisters or Cerotes tending to the same purpose, taking them so clean away, that they fall off by the roots. Some use also to temper them with such convenient medicines as are warranted to take away Warts, Corns, or any hard knobs or pieces of flesh growing in the hands or feet. Some again use to pulverise *Cantharides*, and then mixing them with Tar, do make an Unguent to cure the falling away of the hair, or the shedding of it, either in the head or beard, but herein there must be good advice required, lest at any time by their caustick faculty they exulcerate too deep into the flesh.

Cantharides mingled with Lime, serve in stead of a Pen-knife to eradicate and take away those little hard and red swellings rising chiefly in the crown of the head, armpits, or privy parts, called of some Physitians *Pani*: and some there be again that will adventure a little of them in powder, to give with such Medicines whose property is to provoke Urine: But yet there is hard hold and tough reasoning on both sides, whether they ought to be given inwardly with Diuretiques or no, considering that being so drunk, they are accounted amongst strong poysons, tormenting the bladder without any ceasing: othersome again hold the contrary, assuring us upon their own experience, that not exceeding their due quantity, they may be taken with other Correctories, to serve as a Retricle to transport them to the place affected, so that you see either side hath his strength and reasons.

Iusta pari premitur veluti cum pondere libra,

Prona nec hac plus parte sedet, nec surgit ab illa.

That is to say;

As when an even scale with equal weight is peized;

Nor falls it down this way, or is it that way raised.

But being mingled and wrought up with the juyce of *Una Taminea*, (which is a kinde of Berry, growing on the herb called *Ampelos angria*, a kinde of Briony) Sheeps or Goats sewer, there is no doubt but that they do great good. Some of my Masters (saith *Galen*, the Prince of all Physitians next to *Hippocrates*) did use to put Cantharides amongst such medicines as they prepared to move urine, taking only their wings with the feet, but I (saith he) am wont to take Cantharides wholly, as well as some parts of them, and so I judge them the more safe to be used and prepared this way, especially I misse not to make choyce of such are found among Corn, and have as it were a yellow circle or enclosure crossing overthwart their wings, lib. 3. lib. 6. 11. de Simplic. facult.

Being applyed rightly, they do also provoke the monthly terms, and that very effectually, and put into Antidotes, they are thought of many to help Hydropical persons, as not only *Hippocrates* and *Dioscorides*, but also *Galen*, *Avicenna*, *Rhazes*, *Pliny*, and other Physitians of best note and worth have witnessed: I cannot here sufficiently enough commend their assured, tryed, and approved use, being commixed with Leaven, Salt, and Gum *Ammoniacum*, for the diversion of Rhumes or Catarrhs, the taking away of all Goutish pains, out of the hanch or hip (called the *Sciatica* of the popular sort) whilest they draw forth and consume from the center of the body, (being theré thoroughly and deeply impacted) to the surface the matter or offending humours causing these griefs above said.

They are also good against the venom of a *Salamandra*, as *Pliny* in his 29. Book. and 24. Chapter assureth us. They are also highly esteemed of some, being duly prepared and orderly mixed with certain other medicines, to take away and correct the remisse negligence, falling-faintnesse, and heartlesse casting down of the Virile part, yea they do (as they say) very much provoke to venereous incitements.

But here I would counsel each one not to be knock-hardy bold, in meddling with them, for these or the like intentions: for as they bring both health and help, being duly commixed, and orderly tempered, not exceeding their dose and first quantity; so again, if you fail in their due and skilful application or propination, they induce and drive men into most intolerable grievous symptoms and accidents, and otherwhiles to death it self. *John Langius* setteth down a true and very pleasant story, which in this place, because it maketh greatly for our matter in hand, I will not refuse briefly to describe it.

There was (saith he) at *Bonony* in *Italy*, a certain rich and Noble young man of *France*, (which *Gallus*, to use his own words, was *Gallo quovis galinaceo salacior*) who falling extreemly in love with a certain Maid in the same City, prevailed so far at length through his earnest importunities and incessant sollicitations, that at length they appointed and agreed upon the time and place of their meeting, to keep their Revels for one night. So this lusty Gallant being thus insnared in the inextricable labyrinth of her beauteous Phisnomy, fearing deadly, lest his heart should turn into Liver, or that he might faint and lose his courage before he should attain to his journeys end; in this his doubtful cooping, and dangerous skirmishing conflict, like a wise man fearing the worst, casting all dangers beforehand what might ensue. would needs know of a fellow-souldier, and Countreyman of his, who had as one may guesse born a standard in the Camp of *Venus*, what were best to be done, to move him to a more vigorous courage, and to keep his credit for that time, lest either he should turn Craven like an overtired Jade, or else be utterly non-suited, which was worst of all: who presently wished him to take some Cantharides in his Broath, which the other at all adventures forthwith did.

But it was not long before this jolly Yonker felt an itching about his lower parts, then being fro-like above measure, supposed it to be the operation of his medicine that caused this Colt-evil, he without any more ado hyed him to his Love, minding there indeed to draw the matter to a set battel, and to end all controversies by dint of sword.

Tunc animis opus, Aenea, tunc pectore firmo.

In English thus;

Of courage then indeed,

Then of stout breast is need.

But yet for all this, in the still of the night, when every one besides were at rest, my restless *Frank* felt his whole body to be pockily torn, and miserably rent with sundry cruel prickings and stings, feeling moreover a strange tast in his mouth, like the juyce or liquor that issueth from the Cedar tree, stamping and staring, raging and faring like a furious, mad, frantike Bedlam, being almost besides himself through the extremity of his pain, vertiginy and giddinesse of his brain, with inclination to fainting or swoounding: so being troubled, tost, and perplexed, all sad, melancholike and male-content, destitute of counsel and comfort, like a silly Miser, and an impotent Suiter, and not like a couragious hot-spur, he let his action fall, turning his back like a Novice and fresh-water Souldier, full sore against his will you may be sure, but there was no remedy, and so with as much speed as he could, bidding his Love adieu, he trudged home to his own lodging; whither being come, and finding no relief, but rather an encrease of his torments, with a continual burning of his Urine and Strangury, he lamentably besought, and with weeping and tears most humbly craved and cryed out for help, requiring the

the favour and furtherance, both of my self and of another Physitian for the cure: so I being admitted to visit this poor patient, I first gave him some Oyl to drink, thereby to provoke vomiting: then was there prepared a Glyster, made of the herbs *Mercurialis*, Mallows, and the root of *Althea* decocted, wherein was dissolved *Cassia*, with Oyl of Violets and Lillies. After the administering of this, I commanded him to take a good draught of Cows or Goats milk once in every hours space, and if Milk could not be had, then I willed him to take an Almond Milk made *Ex nucleis pinæ*, seeds of Mellons, Gourds, and Poppy bruised with the distilled Water of Mallows, and *Alkekengi*, and this would I have given to him in good quantity in stead of the Milk if it were wanting.

But after that my fiery Frenchman had recovered his former health with these and the like remedies, and that the unadvised Author of this rash counsel had very humbly intreated pardon at our hands for this his great fault, he protested solemnly with a great oath, that he would never hereafter prescribe any Physick to any man living. Thus far *Jobannes Langius* in his first Book *Epistola Medica*. forty eight.

There is also very profitable use to be made of Cantharides; for if you beat them to powder, and convey a little of it into Apples, Pears, Plums, Figs, Peaches, or Quinces: especially those that be fairest and ripest, and those that hang the lowest, finely closing it up again with the pill, which if any Theeves or Robbers of Orchards shall tast of, they fall within a while after into an intolerable burning in their Urine and Strangury, making it only in dropping wise, whereby their theft is soon found out, and they well rewarded with sowre Sawce for their sweet meat: And this is an excellent night-spell, and therefore I was loath to pretermitt it, but to make you acquainted withall.

There is also another excellent medicinal use of Cantharides, if they be duly, and according to trueart administred, and with great warinesse for that passionate grievance, which at this time though some foolish Physitians never heard tell of any such, I will call *Pessuli infirmitas*, yet I may not set it down in English, because I would have but a few acquainted with secrets. *Habeo enim ego singulare quoddam contra penis Languorem remedium, quo cum promiscue uter, utramque multis nobilibus (qui veneris vulgo studiosiores videntur) animos & vires adauxit absque noxa. Uni tamen inter ceteros sic obfuit, ut à venere (cui nimum litarat) sanguinem continuo mingeret, & lipothymia frequenti laboret. Sanè nisi lacris copia in procinctu fuisset, omnino interisset venereus pulvis, & meritis salacitatis cupidinisq; pœnas luisset.*

And let this suffice to have spoken of their medicinal vertues and qualities; Now will I proceed to tell you of their ill name, naughty, venomous, and pernicious properties. They are reckoned and scored up in the number of most deadly and hurtful poysons, not only because they cause erosion and inflammation, but more in regard of their putrefactive quality and making rotten, wherein they exceed. Their juyce being taken into the stomach, and so piercing into the veins, or laid upon the skin outwardly so long till it hath entred the veins, is a most strong poyson, whereupon *Ovid* when he wished ill unto, or cursed his enemy, writ this; *Cantharidum succos dante parente bibas. lib. Trist. Cicero ad Parum*, in his ninth Book of his familiar Epistles hath these words, *Catus accusante L. Crasso, Cantharidas sumpsisse dicitur*, as if he purposed by that way to make an end of himself by death. *Galen* in his third Book *De Simplic. medicam. facult.* writeth thus:

If they be taken inwardly into the body, though but in small quantity, and mixed with other convenient correctories, they do mightily provoke urine, and sometimes corrode and fret the bladder, so that it is as clear as the noon-day, that what things soever do overthrow nature, by reason of their extreme frigidity, if they be taken but in a very small quantity, yet will nourish the body: so on the other side, whatsoever is contrary, repugneth or goeth against humane nature, by means of corrupting or any putrefactive quality like unto Cantharides, can never do so. *Bartholomeus Montegnana*, a learned Physitian, assureth us, that he once knew one *Francis Bracca* a Citizen of *Padua* in *Italy*, who having but outwardly applyed Cantharides to his knee, yet their poyson spreading to other inwards parts, he voided five pintes of bloud by way of urine: and this may any man see, if he will take the pains to read over *Montegnana Consil. 182. Cap. 10.*

The same accident hath also befallen them, who to be remedied of rough, hard, mangy, or leprolike nails, have adventured to apply them to their great toe. So that Cantharides must not rashly be applyed and used, as common deceivers, blinde Empericks, and coufening Land-lopers would make plain Countrey people believe. *Pliny* relateth a story of one *Cossinus* a Roman Knight, who was deerly beloved of *Nero* the Emperor, who having a very dangerous Tetters (a disease in times past peculiar to the people of *Egypt*) a Physitian of that Countrey in stead of curing, did kill him by giving him Cantharides to drink.

But I should rather think that *Cossinus* dyed by the outward application of Cantharides, because by their burning and caustick quality, they clean eat and consume away filthy Tetters or Ring-worms, Manginess, Scurviness, Lepries, and all hard Callous Warts, Corns, or pieces of flesh that grow in the hands or feet; for I can see no reason why any would be so wilfully blinde, as to give them inwardly for the curation of any Tetters or such like griefs: or at leastwise I must think that the right use of Cantharides was unknown to the ancient Physitians of the old world, as by *Galen* it may appear in his 11. Book *De Simplic. Med. fac.* and in his fourth Book *De vita Acut.*

The same *Pliny* (in his twenty nine Book and fortieth Chapter) witnesseth, that *Cantharides* were reproachfully laid to *Cato Uticensis* charge, and that he was sorely blamed for offering to make a price of poysons, and to sell them openly, as in Port-fail to any that would give most, so that their price rose to threescore sesterities. Being drunk in too large a quantity, or else applied outwardly to any part, either too long or too deep, they produce these or the like symptomes, accidents, and effects.

The party to whom they are any way given, feeleth a pricking pain and torment in his bowels and inward parts, extending from the mouth down to the lower parts about the Bladder, Reins, and the places about the waste and short ribs: they do also ulcerate the bladder very dangerously, inflaming the yard, and all other parts neer the same with a vehement apostumation: after this, they pisse blood, and little pieces of flesh.

Otherwhiles there will follow a great lask or Bloudy-flux, fainting and swoounding, a numnesse or dulnesse of moving or feeling, debilitation, or feeblenesse of the minde, with alienation of the wit, as though they were bestraght; likewise lothing or abhorring of meat with a disposition to vomiting, and often an ordinary desire to make water, and to exonerate nature, but all in vain. He that taketh them findeth in his mouth the tast or tallage of Pitch: and all these symptomes, passions, or effects, that they work, have I with much labour faithfully collected out of the sixth Book of *Dioscorides*, and the first Chapter. And out of *Galen Lib. de Theriaca ad Pisonem Cap. 4. and Lib. 5. de Temperam. cap. 3.* And out of ancient *Rhazes* (who practised Physick one hundred years, if truth be truly related) *Tit. 8. chap. 17.* If any one be either affected or infected with any accidents, by means of *Cantharides*, *Dioscorides* doth thus cure them, as you may readily finde in the Book and Chapter before cited.

First of all he causeth them to vomit often and much: and after that he prescribeth Glysters to be made for the scouring of the belly with Nitre, and to preserve the bladder inwardly, to take Milk and *Psyllum*: and then he would have the matter of Glysters to be somewhat different from those which were taken in the beginning: as namely to be made of Barley water, Marsh-mallows, the white of an Egge, the Musciling of Line-seeds, Water of Rice, the decoction of Fenugreek, Hydromel, fat Broaths, Oyl of Almonds, the fat of a Goose, and the yelks of Egges. And inwardly to take at the mouth, he biddeth them to use Cows milk, Hydromel, the grains or fruit of the Pitch-tree, both the greater and the lesser sort, Wine sod to the half, Ducks fat, a decoction with some diuretical seeds (namely with the four greater cold seeds, which are Cucumbers, Gourds, Citrals, and Melons) and likewise some decoction made of Figs, with syrup of Violets. Oyl of Quinces is highly commended of some as a proper and special Antidote in this case, and so is Oyl of Lillies, and *Terra Samia*.

Rhazes counsel is, after the taking of some Glysters made of any fat broaths, to make an injection into the yard with Oyl of Roses, and the sick person to sit in a warm Bath. *Tit. 8. Chap. 17.* The Writers and Authors of Physick and Philosophy cannot agree, in what part of the *Cantharides* their poyson chiefly lurketh: for some will have it to be principally in the head and feet, and others again will none of that: And yet they all agree upon this point, that in what part of the body soever their poyson is seated, that their wings are a soveraign remedy and preservative, and if they be wanting, that their poyson is deadly: so that although they be never so poysonous, yet have they their own remedy which in themselves they contain and carry about: Thus saith *Pliny* in his 11. Book and 35. chapter.

And peradventure for the same cause, *Galen* in his eleventh Book, which he intituled *De Simplic. Medicament. facultatibus*, adviseth us expressly and learnedly, that *Cantharides* should be taken whole as they are, and so to be used either for inward or outward uses. For why it is far better, even in the outward application of them, that they should more gently and slowly corrode, gnaw, or fret asunder, and that their burning vertue and quality should be a little corrected and weakened, then to perform their full effect to the great danger of the patient, and many times to his utter undoing and destruction. Therefore they are clean out of the way, who when they would use them for any inward cause, do cast away their wings and feet, whereas indeed they ought to take all of them, not rejecting any one part of them. For being given whole, they need not so much any correctives to bridle and lessen their powerful operation in regard of their wings and feet, the proper resisters and expellers of their own or other poyson.

The safest course is to use all, and every part of them without exception, unlesse you would have them to corrode, fret, inflame, or burn any part. *Lycus Neapolitanus* is of opinion, that Purcelane is their proper counter-poyson, which vertue *Pliny* in his twentyeth Book, Chap. 13. ascribeth to the herb called wilde Basil: who also many ways commendeth *Acetum Scylliticum*, *Oleum Oenanthium*, Cows milk and brethes made of Goats flesh for these intentions, in his 23. Book, Chapter the second and fourth, and likewise in his 28. Book and tenth Chapter. And for our History of *Cantharides*, let this for this time suffice, which I much wonder that the famous learned *Gesner* hath in such deep silence passed over, never so much as mentioning them: whereof notwithstanding so many Authors, both of the Ancients and Neotericks, do so much ring.

Many more authorities could I have alleadged concerning this my discourse of *Cantharides*, but that I suppose it a labour as endlesse in toyl, as needlesse in use; the one favouring of too much curiosity, the other of a frivolous affectation: so that I hope even amongst the whole College

The error of
some medi-
cine-givers.

of Physicians, wheresoever in England (if their ears be not too dainty) to finde some few grains of their good words, and such courteous construction, as that I may neither be charged with partiality of concealing (where it is meet I should be mute) nor be suspected of unsufficiency, for not pursuing where I can finde no good footing.

OF CATERPILLERS, or PALMER-WORMS,
called of some Cankers.

NOW I am come to speak of Caterpillers, sometimes the destroyers and wasters of Egypt: as well Their names
in regard of the great difference that is found in their several sorts; as for their great dignity and use, wherein some of them are most notable and excellent. Some think that *Eruca*, which is Englished a Caterpillar, hath his derivation *ab erodendo*, which is not altogether improbable: For they gnaw off and consume by eating, both leaves, boughs, and flowers: yea, and some fruits also, as I have often seen in Peaches.

Ovidius the famous Poet, stileth them by the name of *Tinea agrestes*:

*Quaeque solent canis frondes intedere filis;
Agrestes Tinea, res observata colonis;
Feraci mutant cum papilione figuram.*

In English thus;

*And those wilde Mothes by husbandmen observed,
Which fold themselves in hoary springing leaves,
Gainst force of famine, and storm to be preserved,
A shape from fruitful Butterflies receives.*

The Grecians call a Caterpillar *Kampe*, by reason of his crooked winding or bending pace in waving sort, whereby in creeping they bow, wry, and lift up themselves. Of the Hebrews it is termed *Ghazain*, because it sheareth, pillesh, and devoureth the fruits of the earth, as *Kimhi* upon the first of *Joel* writeth. The Italians call it *Rugaverme*, and *Bruchio*, for so *Marcellus Virgilius* upon *Dioscorides* saith expressly, that in his time all the people of Italy, named it *Eruca*, *Bruchi*. The Spaniards term it *Oruga*. The Frenchmen, *Chenille*, and *Chattepeuse*. Of the English they are commonly called Caterpillers, of what kinde soever they be of. But the English Northern men, call the hairy Caterpillers, *Oubuts*, and the Southern men usually term them *Palmer-worms*. Of the Polonians it is called by the name of *Ruphansenka*. In the German tongue *Eia Raup*. In the Belgian, *Ruipe*. Of the Illyrians, *Gastienica*. And *Silvaticus* will have it called *Certris*, and *Cedebroa*.

If I should go about to describe and set down all the differences and varieties of Caterpillers, I Their differences
might perhaps undertake an endless and tedious labour. I think it therefore fittest to bend my slender skil, and to imploy my best forces, in speaking of such as are more notable and common with us in this Countrey: For some of them in touching are rough, hard, and stiffe; and other some again, are soft, smooth, and very tender. Some are horned either in the head or in the tail; and again, others have no horns at all. Some have many feet, and some fewer, & none at all have above sixteen feet. Most of them have a bending swift pace, and like unto waves, and others again keep on their way very plainly, softly, by little and little, and without any great hast. Some change their skins yearly, others again there be that neither change nor cast their old dry skins, but keep them still. Some of them ceasing altogether from any motion, and giving over to eat any thing at all, are transformed very strangely into a kinde of vermin or worms, who being covered with a hard crust or shell, lie as it were dead all the Winter; and from these come in the beginning of hot weather, our usual Butter-flies.

Many of these Caterpillers are bred of the eggs of Butter-flies; and some again do breed in the leaves of trees, of their own proper seed, being left there in the time of Autumn, included in a certain web, or else by means of the dew or air, therein shut and putrefied, as commonly the little hairy Cankers or Caterpillers which are so full of feet, do breed. Besides, some of them do feed on leaves, some on flowers, and there are some which devour fruits.

All smooth Caterpillers which are not hairy, are of a yellow or green colour: some again are found of a reddish colour, or brownish, or else they be of sundry hews. But of all others, the most excellent is the green coloured Caterpillar, which is found upon that great bushy plant, usually termed Privet, or Primprint, which hath a circle enclosing round both his eyes and all his feet, having also a crooked horn in his tail: these Caterpillers are blackish-red, with spots or streaks going overthwart their sides, being half white, and half purplish, the little pricks in these spots are inclining to red: The rest of their body is altogether green.

There is another Caterpillar feeding altogether upon Elder-trees; not much differing from the former, saving that this is altogether of a green colour, and wanting those overthwarting cross white marks or spots, and the other small white pricks which we described in the former.

There is also a third sort of green Caterpillers, which when Autumn or the fall of leaf draweth on, are turned into a certain sheath or case, being of a very hard and horny substance, of colour very brown, and this feedeth altogether upon Pot-herbs, especially those that be soft, as Lettice: whereupon it may not unfitly be termed, *Eruca Lactucaria*.

Lastly, there is to be seen another sort, of a green colour, which is the least of them all, and this kinde liveth and feedeth upon trees, (especially in the Oke) there drawing out their web, by means of which being stirred and shaken, they easily fall down upon the heads of travellers and passengers by the way side, cleaving to their hats and garments. And this kinde of Caterpillar is too well known and found in the Summer time, and when cold weather approacheth, they fold themselves into a rude, plain, and nothing curious web. And thus being included in a greenish scabbard or case tending to red, they all die in Winter, and all these have ten feet, as all they have that go bending themselves upwards. But to leave the green, and come to them that are yellow, there is to be found a certain Caterpillar called *Vinula*, being as the word soundeth, a very elegant and fine insect to look upon, and passing beautiful: and this kinde have I often found amongst Willows, full favourly feeding upon their leaves. His lips and mouth are somewhat yellow, his eyes black as a cole, his fore-head purple coloured, the feet and hinder-part of the body, of a green grassie hue, his tail two-forked, and somewhat black. The whole body is as it were stained and dyed with thick Red-wine, which runneth alongst the neck and shoulder-blades, as it were in form of a *Burgonian* crosse, or of the letter X, made crosse-wise down unto the tail with a white line, addeth no small grace to the other parts.

There is yet another Caterpillar of yellow-blackish colour, called *Porcellus*, we may in English call it Pigs-snout, in respect of the fashion of the head, especially the greater sort of these, for the lesser have round white specks upon their sides, and these live and are altogether to be found amongst the leaves of the Marsh Trifoly, which they consume and devour with an incredible celerity. In the wilde Night-shade, (which the *Italians* call *Belladonna*) there is found a smooth Caterpillar of a yellow-greenish colour, having a horn in his fore-head the length of a finger, which *Hierom Cardan*, the learned Physitian, reporteth that he had often seen.

The description
of Pityo-
campes.

The hairy Caterpillars are most mischievous and dangerous amongst them all, and these are either thick or thin haired, and the most venomous is that which is called *Pityocampe*, whose biting is poyson: and this is ever found in the Pine-apple-tree, being as thick as three little fingers, and three fingers long being laid a crosse. They consist of eleven slits or cuts betwixt the head and the tail, and they have sixteen feet, according as all other hairy Palmer-worms have. That is to say, neer the head on both sides, there, in the midst of their body on both sides, four, and at the end of the tail on both sides, one. Their former feet are crooked and small, with which they feel, try and assay the way whether it be passable or no, their other feet are broader, with many jags and notches like a saw, to take the faster hold, and stay with surer footing upon smooth and slippery leaves. Their head is much like a Pismires, and the rest of their bodies like other common Caterpillars. They are rough, and full of bristly standing up hairs on all sides, and those in their sides are white, but those on their backs do shine, being very bright and glistering, the midst whereof is garnished with many spots, as though it were full of eyes.

Their skin is black which is soon seen, their hairs being cut or taken clean away. All their hairs are but small, and yet they sting more vehemently than any nettle, whereby is caused intolerable pain, burning itching, a Fever, and much disquietnesse: when as their poyson is suddenly in a moment sent and conveyed without any manifest appearance, or sense of any wound to be judged by the eye, unto those parts that are next the entrails, as the heart, liver, and the rest. They weave their webs after a fine and exquisite manner, as Spiders do, drawing out in length, framing and trimming in good order, their hairy small threads. And under these when night draweth on, they lie as in their own proper tent and pavillion, aswell to avoid cold, as the discomforts of furious blasts and storms: for the matter and substance of this their tent is so handsomely wrought, so firm, stiffe, clammy and sure, that they neither care for furious windes, nor yet any rain or storm will ever soke through. Besides, the largeness of this house is such, and of so great receipt, as it will easily receive and lodge many thousands of Caterpillars. They make their nests or buildings in the highest branches of the Pitch and Pine-trees, where they live not solitarily (as other Palmer-worms do) but in flocks or companies together. Which way soever they take their journey, they are still spinning and drawing out their threads for their web, and early in the morning (if it be likely to prove fair) the younger sort by heaps attend the elder, and having first bared and robbed the trees of all their boughs and leaves, (for they make clean riddance of all wheresoever they come) they afterwards dexterously bend themselves to their weaving craft. They are the only plague and destruction of Pitch and Pine-trees, for unto any other rozy or gummy trees they never do harm.

There is great plenty of them to be found in the Mountain of *Athos*, situate betwixt *Macedonia* and *Thrace*, in the Woods of *Trident*, and in divers Valleys beyond the *Alpes*, in which places there is store of these fore-named trees, (as *Matthiolus* saith.) They are doubtlesse most poysonous and venomous vermine, whether they be crushed outwardly with the hands, or taken inwardly into the body: yea they are so known, manifest, and so never failing a poyson, and so esteemed of in times past, as that *Ulpian* the famous Lawyer, interpreting the Law *Cornelia de Sicariis*, or privy murderers, that he in that place, calleth and esteemeth the giver of any Pityocampie in drink or otherwise to any one, to be doomed a murderer, and their punishment to be equallized. *Sect. Alium ff. ad Leg. Corn. de sic.*

As soon as this kinde of Caterpillar is received into the body, there followeth immediately a great pain, extremely tormenting the mouth and palate, the tongue, belly, and stomach are grievously inflamed by their corroding, and gnawing poysonous quality, besides the intolerable pain the receiver

ceiver feeleth, although at first the party seemeth to feel a certain pleasant itching, but it is not long before he perceiveth a great burning within, loathing and detesting of meat, and a continual desire to vomit and go to the stool, which neverthelesse he cannot do. At length, unlesse speedy succour be given, they so miserably burn and parch the body, that they bring a hard crustinesse, skurfie or scald upon the stomach, as though the sides thereof had been plastered with some hard shards, or other like things, after the manner of Arsenick, as *Dioscorides*, *Aetius*, *Pliny*, and *Celsus* do assure us. In like manner *Galen* in his eleventh Book *Simp. cap. 50.* and *Avicen* 505. cap. 25. have testified the same.

And for this cause *Aetius* and *Aegineta* do say, that it is nothing wholesome for any to sit down to meat, to spread the Table, or make any long tariance under any Pine tree, lest peradventure through the savour or smell of the meats, the reek or vapour of their broaths, or noise of men, the Pityocampies being disturbed from their homes and usual resting places, might fall down either into their meats beneath, or at least-wise cast down, or let fall any of their seed, as poysonous as themselves. They that receive hurt by them, must have recourse to those preservatives and medicines, as were prescribed to those that were poysoned by Cantharides, for by them they are to be cured, and by no other means. Yet for all that, Oyl of Quinces is properly commended to vomit withall in this case, which must be taken twice or thrice, even by the prescript of *Dioscorides* and *Aetius*. They are generated, or to speak more aptly, they are regenerated (after the manner of Vine-fretters, which are a kinde of Caterpillers, or little hairy Worms with many feet, that eat Vines when they begin to shoot) of that Autumnal seed of theirs, left and reserved in certain small bags or bladders within their webs.

There is another sort of these Caterpillers, who have no certain place of abode, nor yet cannot tell where to finde their food, but like unto superstitious Pilgrims, do wander and stray hither and thither, and (like Mice) consume and eat up that which is none of their own: and these have purchased a very apt name amongst us Englishmen, to be called Palmer-worms, by reason of their wandering and roguish life, (for they never stay in one place, but are ever wandering) although by reason of their roughnesse and ruggednesse, some call them Bear-worms. They can by no means endure to be dieted, and to feed upon some certain herbs and flowers, but boldly and disorderly creep over all, and tast of all plants and trees indifferently, and live as they list.

There are sundry other sorts of these Cankers or Caterpillers to be found, in the herbs called Cranesbil, Ragwort, Petie-mullen, Hops, Coleworts, Hasels, Marigolds, Fennil, Lycorice, Basil, Alder, Nightshade, Water-betony, Garden-spurge, and other sorts of that herb; in Elm-trees, Pear-trees, Nettles, and Gilliflowers. Yea there is not any plant to be found, which hath not his proper and peculiar enemy and destroyer: all which because they are so commonly known of all, though perhaps not of all observed, I will (lest I should seem to be infinite) passe over with silence. But yet I will adde a word or two of a strange and stinking Caterpillar, which it was never my hap as yet to see, described by *Conradus Gesner*, in these words following: This stinking Caterpillar (saith he) is very like to those that are horned, but yet it wanteth horns, differing from them all in colour. I first epyed it creeping upon a wall toward the end of *August, Anno 1550.* there cometh from it a lothsome and an abominable savour and smell, so that you would verily believe it to be very venomous. It went forwards very frowningly, and with a quick, angry, and despihtful countenance, as it were in bending wise, the head always stretched up aloft with the two former feet: I judge her to be blinde. She was the length and breadth of a mans finger, with a few scattering and rugged hairs, somewhat bristly and hard both on her back and sides, the back was very black, the colour of her belly and sides was somewhat red, enclining to yellow, and the whole body was distinguished, divided, and easily discerned with fourteen joynts or knots, and every joynt had a certain furrow like a kinde of wrinkle running all along the back. Her head was black and somewhat hard: her mouth crookedly bending like hooks, having teeth notched like a saw, and with these teeth as with pincers or nippers, whatsoever she laid hold on, she (as famished) did bite. She went on sixteen feet, as for the most part all the sorts of Palmer-worms do. Without doubt, she must be concluded to be exceeding venomous.

The learned man *Vergerus*, took it to be a Pityocampe, and others thought it a Scolopendra: but that could not be, by reason of the number of her feet. I could hardly with much ado endure her vile smell, till I had drawn out her description. She so infected two Hot-houses with her abominable savour and stink, that my self and they that were with me, could not endure in the place. Thus far *Gesner*, as I have to shew out of certain scroles of paper of his, never as yet imprinted.

Now will I proceed to discourse of the original, generation, aliment, and metamorphosis of Caterpillers.

*Chare liber, nostrum testis benefide laborum,
Ne tua purpureo suffuderis ora rubore
Agrestes ab acis tineas si expressero nostris,
Vermiculosq; levem qui in thecam vellera mutant.
Hi siquidem artificis prudenti pollice Divi
Finguntur, tenui qui non tenuatur opella*

*Et qui vermiculis, dextra miranda potentis
Signa sua prodit, potius quam corpore vasti
Molifero Barphi, tumido vel robore Ceti
Squamantisq; aliis; qui lata per equora tentant.
Fulmineas sine mente minas: Et nostra profundo
Lintea qua mergant, largo mare gutture rulant.*

Which

Which may be Englished thus ;

Deer Book, a witnesse of my labour true,
Be not ashamed to write of little worms,
Nor Caterpillers, which from base things ensue,
And into easie cases again returns :
For these are fram'd by hand of God most wise,
Never abased in any work so small :

For out of Worms his wonders do arise,
As well as from great Beasts so tall,
Tower bearing Elephant, huge Whale,
And other monsters swimming in the Seas,
Ireful beasts, in hills and deepest dale,
Death threatning to all that them displease.

For so I think it best to begin with the verses of a good Poet, who indeed did see and admire the inscrutable wisdom and divine Providence of the Almighty, in the generation and breeding of Caterpillers. Which whilest divers Authors laboured to expresse and set down diversly, I know not what clouds of errors they have thrust us into ; for swarving themselves besides the way, although they pretend a matchlesse understanding in these mysteries of Philosophy, they have caused others to tread awry as much as themselves, and to be blinded with the mascarados of absurdities. And first, if we will begin to rife in the monument of former times, I will here produce *Aristotles* opinion in his fifth Book, *Histor. cap. 19.* who there expressly saith, that they take their beginning from the green leaves of herbs, and namely of Radish and Coleworts, by means of their small seed of generation, being like unto Millet-seed, which is there left about the end of Autumn, from which female Worms proceed : and of these little Worms in the space of three days a Caterpillar is formed, about the Spring time, or toward the later end thereof, which growing to their due quantity, and well fed withall, they cease at length from any further motion, and when Autumn beginneth, they change both form and life.

Pliny is of this minde, that Caterpillers fetch all their pedegree, race, parentage and birth, from a dew thickned and incrassated by the heat of the Sun, and so still left behinde in leaves : and *Arnoldus de Villa nova* is of the same judgement. Othersome derive them wholly from Butter-flies, and will have them to proceed of no other beginning, which as soon as they are crept out of their hard shells or scabbards, wherein they had lain as it were dead all the Winter, as soon as Summer and warm weather draweth on, they cast certain eggs either under or above the leaves of certain herbs, which egges according to the quantity of their bodies, are either greater or lesser, and some of these shells wherein they are included, are of a sky colour ; others yellow, white, black, green, or red : and so being at length about fourteen days quickned and nourished with the lively and kindly heat of the Sun, their shell-house being broken, first cometh forth small Caterpillers, like unto little Worms, saving that they are diversly coloured, who at their first appearance, being as it should seem very hungry, do altogether bend themselves to devour and eat up both leaves and flowers, especially of those trees and plants whereon they were whilest they were in egges.

But I am of opinion, that not only this, but by divers other ways and means they may proceed and increase, for although the doctrine of *Aristotle* in this point seemeth to be unfavoury, and nothing relishing divers taites, because he affirmeth, that that little Worm which is found upon Coleworts, doth turn into a Caterpillar : yet for all that, it is not so much without smack of salt, or so abhorrent to reason as they would make some believe. For Nature, as she is able, and doth produce and bring forth a living creature from an Egge, so likewise from a Worm she breedeth a more perfect living creature, by many degrees ; and that not by way of corruption, but by way and means of her excellent perfection. For although a Worm afterwards be not that thing which before it was, (so far as is apparent to outward sense) yet for any thing we can gather or perceive, it is that which it was, and this *That*, is more by a great deal now, then before it was. For a Worm dyeth not, that a Caterpillar may thereby spring, but to the old body, Nature addeth a greater magnitude : as for example, feet, colours, wings : so that whilest life remianeth, it acquirith other parts and other offices.

There be some also that deride the opinion of *Pliny*, because he contendeth that Caterpillers have their beginning and production from dew. But it may not be denied in my conceit, that some imperfect small creatures are bred and take life from dew, and not without great reason. For the Sun by his kindly heat and warming quality, worketh and acteth, being as it were the form, and the moisture or humor is *Passive*, as the matter or the subject, for the heat of the Sun is different from that of the fire : for it either quickneth and inspireth with life, or at least-wise conserveth and maintaineth our life, by means of likeness, proportion, or symmetry, wherein our lives and spirits respect each other. Besides, there is nothing more nourishing then Dew, for with it only some certain small creatures are fed, and do thereby live : which thing the divine Poet very well observed, when he uttered these words ;

Quantum nos nocte reponit.

So that in respect that it is humour, it is matter, in respect it is thin, it pierceth and easily entreteth in, and in respect it is attracted and thoroughly concocted by the Sun, it is the apter made to generation. For the preparation of the form, carryeth with it the matter or stufte, as his mate and companion : So these two meeting together, there consequently followeth the quickning or taking life of some one creature. And not only are some Caterpillers the off-spring and breed of dew, as common experience can witnesse, but even the greatest part of Caterpillers do fetch their stock and pedegree

pedegree from Butter-flies, unlesse it be those that live upon Coleworts and Cabbages, and those that are called Vine-fretters; with some few other. For those that live and breed in Vines, (called of the Grecians, *Ipes*;) do proceed from dew, or some dewy and moist humor, which is included in their webs, and there grown to putrefaction. For then do they swarm so exceedingly in some Countries, as I dare neither affirm, nor otherwise imagine, but that they must needs have such a mighty increase from putrefaction. And this for the most part happeneth when the Eastern winde bloweth, and that the warmth of the air furthereth and hasteneth forwards any corruption.

All the whole pack of them are great destroyers and devourers of herbs and trees: whereupon *Philippus* the Parasite, as *Athenæus* saith in *Pythagorista*, braggeth of himself in this wise, *Apolausa thumon lachanoute kampe. Vescens thymo olereq; eruca sum.* I am (saith he) a Caterpillar that eateth both Thyme and Pot-herbs. And to this sense speaketh *Martial*, *Erucam male pascit hortus unam.* A Garden hardly and slenderly can suffice to feed one Caterpillar. I think he meaneth, when the time of their waiting and devouring is gone and past, for they commonly leave but little behinde. For that being past, they go wandering hither and thither, up and down uncertainly, wasted and hunger-starved, and so at length pining away by little and little through famine, some seek them fit places within, other some above the earth, where they transform themselves, either into a bare and empty bag or case, or hanging by a thread into an *Aurelia* covered with a membrane.

If this happen in the midst of Summer, the hard rinde or shell wherein they are inclosed being broken, about the time of 24. days, there flieth out a Butter-fly: but if it come to passe in the midst, or toward the end of Autumn, the *Aurelia* continueth a whole Winter, neither is there any exclusion before the vernal heat. And yet notwithstanding, all Caterpillars are not converted into *Aureliaes*, but some of them being gathered and drawn together on a heap (as the Vine-fretters) do grow at length to putrefaction, from which sometimes there falleth as it were three blackish Egges, the true and proper mothers and breeders of Flies and Cantharides. When the Butter-flies do joyn together very late, or after the time it ought to be, they do lay or cast their Egges, which will continue vital, and that may live till the next Spring, (if a diligent care be had of them) as well as is often seen in Silk-worms, whose Eggs the Spaniards sell, and that very usually by whole ounces and pounds. I have now according to my cunning, discoursed of the transmutations and variable changes of Caterpillars; it followeth next that I write of the qualities and use of Caterpillars, together with those preservatives which experienced Physitians have warranted for true and infallible.

All Caterpillars have a burning quality, and such as will readily fetch off the skin, and flea it quickly, and raise blisters. If any one drink the Caterpillar that liveth in the Pitch trees, there will forthwith follow a great pain about his mouth and jaws, vehement inflammation of the tongue, strong griping and wringing of the Stomach, belly and intestines, with a sensible itching about the inward parts, the whole body is as it were burned and scalded with heat and hot vapours, and the stomach abhorreth all meat: all which are to be remedied with the same means, as those that have taken Cantharides. Yet properly, (as heretofore I have touched) Oyl of Quinces given to cause vomiting, is the best and safest. And if we may credit *Pliny*, new Wine boyled to the third part; and Cows milk being drunk, are very effectual. There is not any one sort of Caterpillars, but they are malign, naught, and venomous, but yet they are least hurtful who are smooth and without hairs; and the most dangerous of all the rest, is that which heretofore I termed a Pityocampe, whose poyson for the most part is deadly.

Their qualities.

The daughter of *Calius Secundus* living at *Basil* in *Germany*, (as *Gesner* saith) when she had unwarily and greedily eaten some Colewort-leaves, or Cabbage in a Garden, and with them some Caterpillars, after a strong vomit that was given, her belly began to swell, which swelling, having continued these many years, could never as yet receive any cure. If you will have your Gardens and Trees untouched and preserved from their mischievous quality, you must first take clean away in the Winter time their webs, or any part thereof (though never so little) that you can finde cleaving to the bare boughs: for if you let them alone till the Spring, you shall sooner see them, then finde them removed, for in a short space of time they devour up all that is green both leaves and flowers. Some use to anoint their trees with the gall of a green Lizard, and some with a Bulls gall, which as some constantly report, they can by no means away withall.

The Countrey people choke them with the vapour of a little Brimstone, with straw being fired under the tree, and so to smother them. Some there be that make a fumigation with *Galbanum*, Harts-horn, the shavings of Ivory, and Goats hoofs, and Ox-dung. *Didymus* in *Georgicis* saith, that if you bare the roots of your trees, and besmear or soyl them with Doves dung, they shall never be hurt by any Worms.

I should willingly have omitted, and not renewed with any fresh discovery *Columellæ* remedy against Caterpillars, (or rather the immodest deceit and deluding trick of *Democritus*;) unlesse experience, which is, *Iterata ejusdem eventus observatio*, a repeated observation of the same event, had approved the verity thereof, especially in the Countrey of *Stiria*. And *Palladius* in his first Book, ch. 35. and *Constantinus* neer the end of his 11. and 12. Books, whose words be these;

At si nulla valet medicina repellere pestem,
Dardaniæ veniunt artes, nudataque plantis
Fœmina, quæ jussu tum demum operata juvencæ

Legibus, obscæno manat pudibunda cruore,
Sed resoluta sinus, resoluto mœsta capillo
Ter circum areolas, & sepe ducitur hortu:

Quæ

*Que cum lustravit gradiens (mirabile visu)
Non aliter decussa puit quam ex arbore nimbus,*

Which may be Englished thus;

But when no medicine can that plague expell
Then use they Arts, which once the Trojans found,
A woman which had Virgin-laws observed well,
Her bare and naked bring they to the ground,
Flowing with Natures shameful filthy bloud:
Her bosome open, and her hair untrimmed falling

*Vel teretis mali, vel testæ cortice glandis,
Voluitur ad terram distorto corpore campe.*

Like one ore prest with grief, forgetting good,
Three times about the plots and hedges walking.
Which done, a wonder tis for to be told,
As rain drops from the trees, ripe Apples fall,
Walnuts out of husks: so cast you may behold
These Worms from trees, all torn, and cannot crall.

Theophrastus saith, that Caterpillers will touch no plants which are moistened or besprinkled with Wine. They will die if they take the fume, or be any way smoaked with the herb *Pfora*. *Aetius*. Whereby it is apparent (saith *Silvius*) that the herb commonly termed Scabious is not the true *Pfora*. Caterpillers that live and feed on Coleworts, if they be but touched with that kinde of Worm which is found in the Fullers Teasel, they die. *Pliny*. All to besprinkle a Colewort whilest it hath but only three leaves, with Nitre, or with saltish and brinish earth, and by means of the saltnesse, the Caterpillers will be quite driven away. *Geopon*. *Palladius* in this case preferreth the ashes of Fig-leaves. The Sea-onion called *Squilla*, being sown or hanged up in Gardens, hindereth the breeding of Caterpillers. Othersome in the most places of their Gardens, and round about them, sow and set Mints, the pulse called *Orobos*, which is somewhat like Vetches, and some Wormwood, or at least-wise hang them in bunches in divers places of the same, to expell this kinde of noysome creature.

Some very advisedly take dry leaves and stalks of Garlick, and with the same do smoke and perfume their whole Garden, so that by this way the smoke being conveyed into all places thereof, the Caterpillers will fall down dead, as *Palladius* hath written, in whose writings any man may read of plenty of such Antidotes and Alexipharmical medicines, as may serve to destroy Caterpillers.

Their use in
Physick.

Now will I speak of their use in Physick, and in the Common-wealth. The web of Caterpillers being taken inwardly, stayeth womens fluxes, as *Matthiolus* saith. Being likewise burnt and put into the nostrils, it stancheth bleeding at the nose. The Caterpillers that are found amongst the herbs called Spurges of all sorts, (by the judgement of *Hippocrates*) are notable for purulent and mattery Wombs, especially if they be first dried in the Sun, with a double quantity of Earth-worms, and a little Aniseed finely powdered, and so all of them to be relented, and taken in some excellent White-wine. But in case they feel any heaviness or aking in the belly after the taking of this medicine, then it were good to drink a little Mulse thereupon. This saith *Hippocrates* in his Book *De Superfætat*.

Dioscorides in his first Book and 90. chapter, giveth in drink those common Caterpillers that live in companies together, against the disease called the Squinsie. But unlesse by some hid and secret property, they do good in this grief being received inwardly, it were needful (in regard of their manifest venomous nature) that they were utterly rejected and contemned. *Nicander* useth them to provoke sleep, for thus he writeth;

*Ei de suze tripsas oligo ex hammati kampen
Kepeien drosocastan epichloreida noto, &c.*

Which *Hieremias Martius* hath thus translated;

*Quod si rodentes olus & frendentia vermes
(Lueva quibus virides depingunt terga colores)
In medio sacra de Palladis arbore succo
Triveris, hincq; tuum colleveris undiq; corpus,
Tuta dabis dulci securus membra quieti.*

Which may be Englished thus;

With herb-eating, or green-leaf-gnawing Worms,
Whose backs imprinted are with colours lively green,
All bruised, mixed with juyce from Pallas tree that runs,
Anointed body brought to sound sleep is often seen.

There are to be seen in divers thorny, prickly, sharp and rough herbs, (as for example in Nettle) sundry hairy or lanuginous Caterpillers, which being tyed or hanged about some part of the body, do by and by (as the report goeth) heal those Infants which have any stopping of the meats passage when they cannot swallow.

A Caterpillar breeding in Pot-herbs, being first bruised and then anointed upon any venomous bitings of Serpents, is of great efficacy: and if you rub a naughty or a rotten tooth with the Colewort-caterpillers, and that often, within a few days following, the tooth will fall out of his own accord. *Avicenna*. Caterpillers mixt with Oyl, do drive away Serpents. *Dioscorides*. If a man anoint his hands, or any other part with Oyl, it will cause that he shall receive no hurt by the stinging of Bees, Wasps, or Hornets, as *Aetius* saith. *Pliny* citeth many fond and superstitious fained matters, and lying tales, devised by those who in his time were called *Magi*, Soothsayers or Diviners, concerning the admirable vertues of Caterpillers. All which, because I see them hissed out of the School of

Divinity,

Divinity, and that in heart secretly I have condemned them, I will at this time let them passe without any further mention.

They are also a very good meat to divers Birds and Fowls, which are so needful for the use, benefit, and food of mankind, as to Starlings, Peacocks, Hens, Thrushes, Daws or Choughes: and to sundry fishes likewise, as to the Tench, Pike or Pikerel, and to a certain Sea-fish called a Scorpion: also to the Trout, and some others, who are easily deceived with a Caterpillered hook. Which kind of fishing fraud, if you would better be instructed in, I must refer you to *Tarentinus* in his *Geoponicks*, and to a little Book dedicated to *Robert Dudley*, late Earl of *Leicester*, written by Master *Samuel Vicar* of *Godmanchester* in *Huntingtonshire*.

It is not to be passed over in silence, how that not many years since, there came infinite swarms of Caterpillers out of *Thracia* into *Polonia*, *Hungaria*, and beyond the limits of *Germany*, which did not only devour the fruits of trees, but whatsoever was green either in the meadows and tilled fields, besides the Vines: which was taken for an evident prognostick and sign (as many divined) of some great *Turkish* Army to come swarming into those parts: neither herein did this their gheffing and mistrust deceive them, for the next year following was the siege of *Vienna* in *Austria*, the waisting, spoyling and over-running of *Hungaria*; and the deadly English-sweating could not contain it self in an Island, but must spread it self among them of the Continent, whereupon ensued the destruction of many thousands of people, before any remedy could be found out. In the year of grace 1573. there rushed infinite swarms of Caterpillers into *Italy*, where they spoyled and made havock of all green buds and grasse growing upon the face of the earth, so that with their unquenchable and insatiate voracity, they left nothing but the bare roots of trees and plants: and this hapned chiefly about *Mantua* and *Brixia*. And upon the neck of this, followed a terrible and fearful pestilence, of which there dyed about 50. thousand persons.

Also in the year of our Lord GOD 1570. there were two great and sudden swarms of Caterpillers that came rushing into *Italy* in the space of one Summer, which put the *Romans* into an exceeding great fear, for there was nothing left green in all their fields that could be preserved from their ravine, and from their gluttonous and pilling maw. And although the fertility of the year immediately following, did almost blot and rase out the memory of this their heavy punishment, and that many seemed as it were to repent them of their repentance; yet are we not to doubt, but that many were truly penitent, and seriously were drawn to amendment of life by a due consideration hereof. God grant that we may be warned by other mens punishments, lest that poor creature, which we imagine to be the silliest and least able to do us harm, we finde the most heavy.

Of the BOAS.

IT was well known among all the *Romans*, that when *Regulus* was Governor or General in the *Punic* wars, there was a Serpent (neer the River *Bagrade*) killed with slings and stones, even as a Town or little City is overcome, which Serpent was an hundred and twenty foot in length: whose skin and cheek bones were reserved in a Temple at *Rome*, until the *Numantine* war.

And this History is more easie to be believed because of the Boas Serpent bred in *Italy* at this day: for we read in *Solinus*, that when *Claudius* was Emperor, there was one of them slain in the *Vatican* at *Rome*, in whose belly was found an Infant swallowed whole, and not a bone thereof broken. The *Germans* call this Serpent *Uncke*, and besides them I do not read of any other Name. Some have ignorantly confounded it with *Chersydrus*, an Adder of the earth, but upon what reason I do not know, only *Solinus* discoursing of *Calabria*, might give some colour to this opinion, when he saith, *Calabria Chersydris est frequentissima, & boam gignit quem Anguem ad immensam molem ferunt coalescere*: that is to say, *Calabria* is full of Earth-adders, and it breedeth the Boas, which Snake some affirm will grow into a monstrous stature. Out of which words, there is no wise man can collect, that the Boas and the Adder of the earth are all one thing.

The *Latins* call it *Boa* and *Bova* of *Bos*, because by sucking Cows milk it so increaseth, that in the end it destroyeth all manner of herds, Cattel and Regions. And our domestical Snakes and Adders, will also suck milk from Kine, as in all the Nations of the world is most manifest to them that will observe the same.

The *Italians* do usually call them, *Serpeda de Aqua*, a Serpent of the water, and therefore all the Learned expound the *Greek* word *Hydra* for a Boas. *Cardan* saith, that there are of this kinde in the Kingdom of *Senega*, both without feet and wings, but most properly they are now found in *Italy*, according to these verses;

*Boa quidem Serpens quem tellus Italia nutrit
Hunc bubulum plures lac enutrire docent.*

Which may be Englished thus;

*The Boas Serpent which Italy doth breed,
Men say, upon the Milk of Cows doth feed.*

Their fashion is in seeking for their prey among the herds, to destroy nothing that giveth suck so long as it will live, but they reserve it alive until the milk be dried up, then afterward they kill and

eat

and eat it, and so they deal with whole flocks and herds. The poyson of it, saith *Festus*, maketh tumor and swelling in the body, whereunto all other agree, except *Albertus*, who in this point agrees not with himself, for in one place he saith, that they are venomous, and their teeth also like other Dragons, in another place he saith, their poyson is very weak, and not to be regarded, because they be Dragons of the third order or division. They go all upon their belly, and so I will conclude their story with *Mantuan*.

Turpi Boa flexilis alio.

That is to say;

The filthy Boas on his belly moves.

Of the CHAMÆLEON.

IT is very doubtful whether a Chamæleon were ever known to the ancient *Hebrews*, because there is no certainty among them for the appellation thereof, some affirming one thing, and some another. We read *Levit. 11.* among other beasts there forbidden to be eaten of, *Koab*, or *Koach*, which *Rabbi Kimbi* interpreteth a kinde of Crocodile, (*Hazab*), *Rabbi Jonas* in the *Arabian*, *Hardun*, and so also doth *Avicen*. The *Chaldee*, *Koaba*; the *Persians*, *An Sanga*; the *Septuagints* and *S. Jerom*, a Chamæleon. The self same word is found *Levit. 14.* which the *Jews* do vulgarly at this day take for *Senicus*, a Crocodile of the earth. The word *Oab* or *Oach*, seemeth to come neer to this, which is sometimes interpreted a Tortoise, a Dragon, or a Monkey. And *Oas* by *Sylvaticus*, is translated a Salamander. *Kaath* by the *Jews*, is translated a Cuckow, a Jay, a Pelican and an *Onocratua*: and in the second of *Sephoni* for a Chamæleon. Some have framed an *Hebrew* word *Gamalion*, which is absurd, for *Gamelon*. *Zamelon*, *Aamelon*, *Hamaleon*, and *Meleon*, are but corrupted terms of Chamæleon, as *Isidorus* well observeth, or else signifieth some of the kindes of Lizards or Stellions, as is manifest in *Albertus*, and other learned Writers. Therefore I will not blot more paper about the *Arabian* beasts, *Harbe* and *Alharbe*, *Alarbian* or *Hardon*, *Hardun*, or *Alharba*, but leave them to the judgement of those, who delight in the investigation of such secrets.

Chamæleon is a *Greek* word, from whence the *Latines*, and almost all Nations have borrowed the name of this Serpentine or creeping beast, except the *Germans*, and they only have fained names, as *Lindwarm* in *Albertus*, that is, a Worm of the Wood, and *Rattader* by *Gesner*, that is, a Ratmouse, because in quantity and composition it resembleth both those creatures. Some *Latines* by reason of the similitude it holdeth with a Lizard, call it *Muri Lacertius*, a Mouse Lizard. The *Greek* word *Chamæleon*, signifieth a low and humble Lion, because in some parts and members, he resembleth that lofty and courageous beast. So do they derive the name of certain low and short herbs, from great and tall trees, as *Chamæcyparissus*, *Chamædris*, and *Chamæpitys*. Shrubs of Plumtree, Heath, Cypres, Germanander, and ground Ivy, from the Cherry, the Cypres, the Cedar, and the Pine tree. And thus much for the name of the Chamæleon.

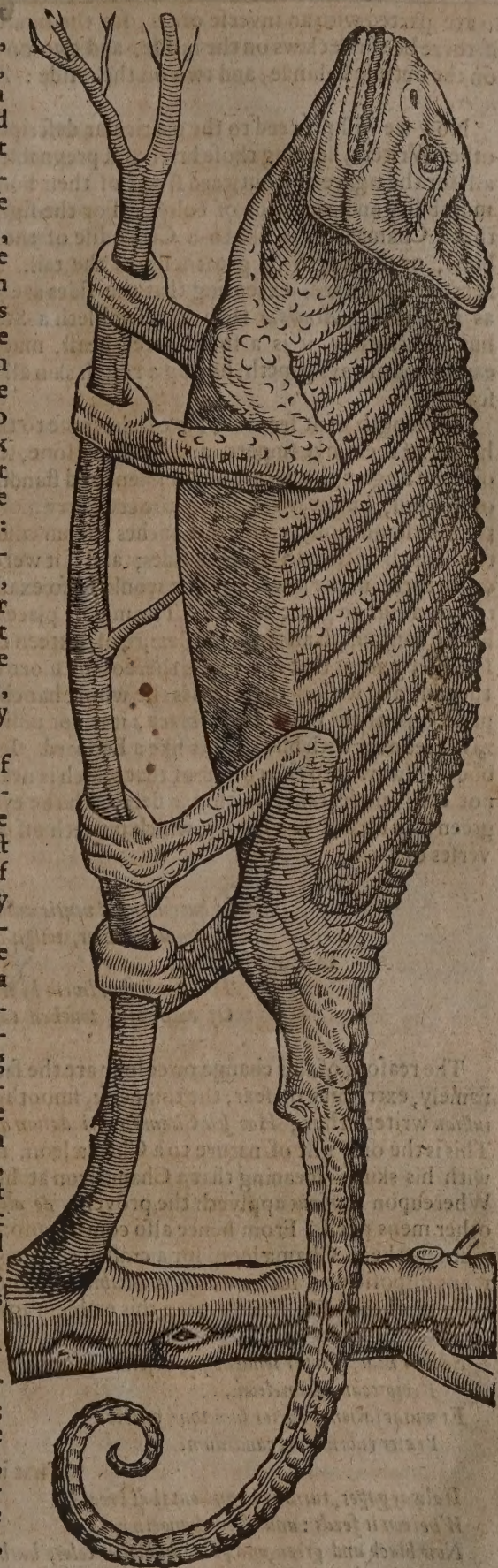
The Countries breeding Chamæleons, are *Africa*, *Asia*, and *India*, and for the quantity thereof I do finde divers descriptions, some particular, as in *Belonius*, and *Sealiger*, and some general in other Writers, all which I purpose briefly and successively to expresse in this place. It is said (saith *Belonius*) that the Frog and the Chamæleon are like one to the other, because they use the same Art and industry in taking their meat: and to the intent that this thing may more evidently appear, both by the description and the picture, I have thought good to entreat of the Chamæleon, amongst the Water-beasts, because it liveth for the most part in moist, marshy, and Fenny places. I have seen of them two kindes, one, a lesser kinde in *Arabia*, being of a whitish colour, all set over with yellowish or reddish spots, and in quantity not exceeding the green Lizard. The other, in the hot places of *Egypt*, being twice as big in quantity as the *Arabian*, and of a changeable colour, betwixt white, green, brown and yellow, for which occasion some have called it *versicolor Chamæleon*, that is, a turn-coat-coloured Chamæleon. But both these kindes of Chamæleons have a copped head, like to a Camel, and two bones at the top of their brows standing up on either side, and hanging out: their eyes are most clear and bright, about the bignesse of a pease, only covered with a skin, so that their appearance outward, exceedeth not the quantity of a Millet-seed. They are very flexible, turning upwards and downwards, and are able at one time to look two several ways, distinctly upon two several objects, wherein they exceed all other beasts. It is a heavy and dull beast, like the Salamander, neither can it run, but like a Lizard, wherefore it is not afraid of the sight of men, neither doth it run from their presence, neither is it easily provoked to harm or bite a man: it climbeth little trees for fear of Vipers and horned Serpents.

Some have thought that it never eateth meat, but is nourished with the winde, because it draweth in very eagerly many times the winde into the belly, whereby it swelleth; for it hath great lights stretched all along the sides of the belly: but this opinion is false, as shall be shewed hereafter, although it cannot be denied that it is *Oviparum patientissimum famis*: that is, The most induring famin among all other Egge-breeding-beasts, for it fasteth many times eight moneths: yea, a whole year together. In stead of nostrils and ears, it hath certain passages in those places, whereby it smelleth and heareth.

The opening of the mouth is very large, and it hath teeth on the neather and upper chap like saws, such as are in a Slo-worm, the tongue very smooth, half a hand breadth long, where withal it licketh in those insect Flyes, Horse-flies, Locusts, and Emets whereupon it feedeth: For it keepeth at the mouth a certain some, or moisture, and also upon the tail or backer parts, wherewithal those Flyes and other Creatures are so much delighted, that they follow the Chamæleon, and as it were bewitched with the desire thereof, they fall upon the moisture to their own perdition; and this is to be noted, that this moisture or some in the backer parts of the belly is like a Sponge. It hath a line or strake under the belly, indented as it were with scales, white in colour, and stretched out to the tail; but the feet seem to be of an artificial work of Nature, wherein is a curious difference betwixt the former and the hinder: for the forefeet have three fingers or claws within, and two without: the hinder-feet on the contrary, have two without and three within. It layeth twelve long Egges, such as Lizards do; the heart is not much greater then the heart of a domestical Mouse or Rat: it hath two laps of a Liver, whereof the left is the greater, unto which cleaveth the skin of the gall, the which skin exceedeth not in quantity a Barley corn. And thus far the description by *Belonius*.

In the next place for the better manifestation of the nature of this beast, I will also adde the description that *Scaliger* maketh thereof. For he saith, that when *Johannes Landius* was in the farthest parts of *Syria*, he saw five Chamæleons, whereof he bought one, which with his tongue did very suddenly take off a Fly from his breast: Wherefore in the dissection of the said Chamæleon, he found that the tongue thereof was as long as a hand breadth, hollow and empty, in the top whereof there was a little hole with filthy matter therein, wherewithal he took his prey: which thing seemed new and strange unto them which heretofore thought that a Chamæleon lived only by the air. His back was somewhat crooked, rising with spotted bunches like a Saw, like the Turbut-fish, his belly closed with short ribs, his eyes most beautiful, which he turneth every way without bending his neck: his colour white, green, and dusky: naturally green, somewhat pale on the back, but paler and neerer to white on the belly, yet was it beset all over with red, blew, and white spots.

It is not true that the Chamæleon changeth her self into all colours, upon green groweth greenesse, upon the dusky is tempered a dusky colour; but upon blew, red, or white, the native greenesse is not blemished or obscured, but the blew, white, and red spots yeeld a more lively and pleasant aspect; upon black, standeth brown, yet so as the green hew seemeth to be confounded with black, and it doth not change his own colour into a supposed colour, but when it is oppressed with fear or grief. That it liveth sometime of the air, a whole year or more, doth appear, because it eateth no meat during that time, but gaping with a wide mouth draweth in the air, and then shutting his chaps again his belly swelleth. Yea, I found one that constantly affirmed, that they turn themselves to the beams of the Sun, and gaping wide after them, follow them hard as it were to draw them in. They have five distinct claws upon every foot, with two of which they clasp the round boughs or twigs of trees, as Parrats do when they sit upon their perches, and these claws stand not as other Birds do, three together and one by it self, but in imparity or dissimilitude, three on the one side, and two on the other, and



so are parted with an inverse order, for the hinder and former are contrary one to the other, so as if there be three claws on the inside, and two on the outside of the leg before, then are there three on the outside behinde, and two on the inside: And thus much I received from *Langius*. So far *Scaliger*.

Aristotle.
Solinus.

Now we will proceed to the particular description of their parts, as we finde them recorded in other Writers, leaving those brief and pregnable Narrations of *Bellonius* and *Scaliger*. And first of all for the figure and outward shape of their bodies, then for their colour, and the reasons of their mutability and variation of colour. For the figure and shape of their bodies, *Pliny* is of opinion, that a *Chamæleon* is like to a *Crocodile* of the earth, except in the sharp bending of the back-bone, or the length or greatnesse of the tail. Some say that the whole parts of the body doth represent a *Lizard*, excepting that the sides are joyned to the belly, and the back-bone standeth up as in *Fishes*. *Arnoldus* saith it resembleth a *Stellion* if the legs were not straighter and higher: but the truth is, it is a four-footed-beast, much like to a *Lizard*, yet it goeth higher from the earth, and always gapeth, having a rough skin all over the body like a *Crocodile*, and is also full of scabs.

The length of it from the tip of the nose to the rump of the tail is seven or eight fingers, the height of them five fingers, and the legs alone, three fingers and a half. The length of the tail eight or nine fingers, the back-bone eminent and standing up, crested or indented all throughout to the tip of the tail, but near the rump, the crests are more low and lesse visible. On either side at the root of the ribs stand bony eminent bunches, from which descendeth a line, and is extended throughout the length of the tail on both sides, and if it were not for these bunches the turnings about, and the other three in the lower part, it would be so exasperated or extenuated toward the end like to the tail of a *Rat* or great *Mouse*. The middle place betwixt the bottom of the belly and the top of the back, containeth an angle or flexure of sixteen ribs, after the fashion or proportion of a *Greek Lambdas*, except that the angle thereof be more wide and patent, which looketh backward toward the tail, and within these ribs is the whole hanch of the body and belly, contained in a round compass on either side. Being black, it is not unlike the *Crocodile*, and being pale, it like to the *Lizard*, set over with black spots like a *Leopard*. It changeth colour both in the eyes, tail, and whole body, always into the colour of that which is next it, except red and white, which colours it cannot easily undertake, so that it deceiveth the eyes of the beholders, turning black into green, and green into blew, like a *Player*, which putteth off one person, to put on another: according to these verses of *Ovid*;

*Id quoque quod ventis animal nutritur & aura,
Protinus assimilat, tetigit quoscunq; colores.*

In English thus;

*The Beast that liveth by winde and weather,
Of each thing touched taketh colour.*

The reasons of this change or colour are the same which are given of the *Buffe* and *Polypus* Fish; namely, extremity of fear, the thinnesse, smoothnesse, and baldnesse of the skin. Whereupon *Tertullian* writeth thus; *Hoc soli Chamæleonti datum quod vulgo dictum est de suo corio ludere*: That is to say, This is the only gift of nature to a *Chamæleon*, that according to the common Proverb it deceiveth with his skin: meaning that a *Chamæleon* at his own pleasure can change the colour of his skin. Whereupon *Erasmus* applyeth the proverb, *de alieno corio ludere*, to such as secure themselves with other mens peril. From hence also cometh another proverb, *Chamæleontos rumei aboloomatos*, more mutable then a *Chamæleon*, for a crafty, cunning, inconstant fellow, changing himself into every mans disposition; such a one was *Alcibiades*, who was said to be in *Athens*, and of such a man resembling this beast, did *Alciatus* make this emblem against flatterers:

*Semper hiat, sumper tenuem qua vescitur auram,
Reciprocatur Chamæleon,
Et mutat faciem, varios sumitque colores,
Præter rubrum vel candidum.*

*It alway gapes, turning in and out that breath
Whereon it feeds: and often changeth hew:
Now black and green, and pale, and other colors bath,
But red and white Chamæleons do eschew:*

*Sic & adulator populari vescitur aura,
Hiansque cuncta devorat.
Et solum mores imitatur principis atros,
Albi & pudici nescius.*

That is to say;

*So Clawbacks feed on vulgar breath as bread,
With open mouth devouring fame and right,
Princes black-voices praise, but virtues dread,
Designed in nature by colours red and white.*

A *Chamæleon* of all Egge-breeding Beasts is the thinnest, because it lacketh bloud, and the reason hereof is by *Aristotle* referred to the disposition of the soul: For he saith, through overmuch fear, it taketh upon it many colours, and fear through the want of bloud and heat is a refrigeration of this Beast.

Plutarch also calleth this Beast a meticulous and fearful beast, and in this cause concludeth the change of his colour, not as some say, to avoid and deceive the beholders and to work out his own happinesse, but for meer dread and terrour. *Johannes Ursinus* assigneth the cause of the change

change of Chamæleons colour, not to fear, but to the meat and to the air, as appeareth by these verses ;

Non timor, imò cibus, nimirum limpidus aer,

Ambo simul vario membra colore novant.

Which may be thus Englished ;

Not fear, but meat which is the air thin,

New colours on his body doth begin.

But I for my part do assign the true cause to be in the thinnesse of their skin, and therefore may easily take impression of any colour, like to a thin fleak of a horn, which being laid over black, seemeth black, and so over other colours : and besides, there being no hinderance of blood in this Beast, nor Intrails, except the lights, the other humors may have the more predominant mutation, and so I will conclude the discourse of the parts and colour of a Chamæleon, with the opinion of *Kiranides*, not that I approve it, but to let the Reader know all that is written of this Subject, his words are these ; *Chamælem singulis horis diei mutat colorem*, A Chamæleon changeth his colour every hour of a day.

This Beast hath the face like a Lyon, the feet and tail of a Crocodile, having a variable color, as you have heard, and one strange continued nerve from the head to the tail, being altogether without flesh, except in the head, cheeks, and uppermost part of the tail, which is joyned to the body ; neither hath it any blood but in the heart, eyes, and in a place above the heart, and in certain veins derived from that place, and in them also but a very little blood.

There be many membranes all over their bodies, and those stronger then in any other Beasts. From the middle of the head backward, there ariseth a three square bone, and the fore part is hollow and round like a pipe, certain bony brims, sharp and indented, standing upon either side. Their brain is so little above their eyes, that it almost toucheth them, and the upper skin being pulled off from their eyes, there appeareth a certain round thing like a bright ring of Brasse, which *Niphus* calleth *Palla*, which signifieth that part of a Ring, wherein is set a pretious stone.

The eyes in the hollow within are very great, and much greater then the proportion of the body, round and covered over with such a skin as the whole body is, except the apple, which is bare, and that part is never covered. This apple stands immoveable, not turned, but when the whole eye is turned at the pleasure of the Beast. The snout is like to the snout of a Hog-ape, always gaping, and never shutting his mouth, and serving him for no other use but to bear his tongue and his teeth : his gums are adorned with teeth as we have said before, the upper lip being shorter and more turned in then the other. Their throat and artery are placed as in a Lizard : their lights are exceeding great, and they have nothing else within their body. Whereupon *Theophrastus* as *Plutarch* witnesseth, conceiveth, that they fill the whole body within, and for this cause it is more apt to live on the air, and also to change the colour.

It hath no Spleen or Milt, the tail is very long, at the end and turning up like a Vipers tail, winded together in many circles. The feet are double cloven, and for proportion resemble the thumb and hand of a man, yet so, as if one of the fingers were set neer the side of the thumb, having three without and two within behinde, and three within, and two without before ; the palm betwixt the fingers is somewhat great : from within the hinder-legs, there seem to grow certain spurs. Their legs are straight, and longer then a Lizards, yet is their bending alike, and their nails are crooked and very sharp. One of these being dissected and cut asunder, yet breatheth a long time after, they goe into the caves and holes of the earth like Lizards, wherein they lie all the Winter time, and come forth again in the Spring, their pace is very slow, and themselves very gentle, never exasperated but when they are about wilde Fig-trees.

They have for their enemies the Serpent, the Crow and the Hawk. When the hungry Serpent doth assault them, they defend themselves in this manner, as *Alexander Mindius* writeth ; they take in their mouths a broad and strong stalk, under protection whereof as under a buckler, they defend themselves against their enemy the Serpent, by reason that the stalk is broader then the Serpent can gripe in his mouth, and the other parts of the Chamæleon so firm and hard, as the Serpent cannot hurt them : he laboureth but in vain to get a prey, so long as the stalk is in the Chamæleons mouth. But if the Chamæleon at any time see a Serpent taking the air, and sunning himself under some green tree, he climbeth up into that tree, and setleth himself directly over the Serpent, then out of his mouth he casteth a thread like a Spider, at the end whereof hangeth a drop of poyson as bright as any pearl, by this string he letteth down the poyson upon the Serpent, which lighting upon it, killeth it immediately. And *Scaliger* reporteth a greater wonder then this in the description of the Chamæleon, for he saith, if the boughs of the tree so grow as the perpendicular line cannot fall directly upon the Serpent, then he so correcteth and guideth it with his fore-feet, that it falleth upon the Serpent within the mark of a hairs breadth.

The Raven and the Crow are also at variance with the Chamæleon, and so great is the adverse nature betwixt these twain, that if the Crow eat of the Chamæleon being slain by him, he dyeth for it, except he recovereth his life by a Bay-leaf, even as the Elephant after he hath devoured a Chamæleon, saveth his life by eating of the Wilde-olive-tree. But the greatest wonder of all is, the hostility which *Pliny* reporteth to be betwixt the Chamæleon and the Hawk. For he writeth,

that when a Hawk flyeth over a Chamæleon, she hath no power to resist the Chamæleon, but falleth down before it, yeelding both her life and limbs to be devoured by it; and thus that devourer that liveth upon the prey and blood of others, hath no power to save her own life from this little Beast.

A Chamæleon is a fraudulent, ravening and gluttonous Beast, impure, and unclean by the law of GOD, and forbidden to be eaten: in his own nature wilde, yet counterfeiting meeknesse, when he is in the custody of man. And this shall suffice to have spoken for the description of this Beast, a word or two of the Medicines arising out of it, and so a conclusion.

I finde that the Ancients have observed two kinde of Medicines in this Beast, one magical, and the other natural, and for my own part, although not able to judge of either, yet I have thought good to annex a relation of both to this History. And first of the natural medicines, *Democritus* is of opinion that they deserve a peculiar Volume, and yet he himself telleth nothing of them worthy of one page, except the lying vanities of the *Gentiles*, and superstitions of the *Grecians*. With the gall, if the suffusions and leprous parts of the body be anointed three days together; and the whitenesse of the eyes, it is believed to give a present remedy: and *Archigenes* prescribeth the same for a medicine for the taking away of the unprofitable and pricking hairs of the eye-brows. It is thought if it be mixed with some sweet composition that it hath power to cure a quotidian Ague. If the tongue of a Chamæleon be hung over an oblivious and forgetful person, it is thought to have power to restore his memory.

Marcellus.

Rhazes.

Kiranides.

Trallianus.

The Chamæleon from the head to the tail, hath but one Nerve, which being taken out and hung about the neck of him that holdeth his head awry, or backward, it cureth him. The other parts have the same operation as the parts of the Hyæna and the Sea-calf. If a Chamæleon be sod in an earthen pot, and consumed till the water be as thick as Oyl, then after such seething take the bones out, and put them in a place where the Sun never cometh, then if you see a man in the fit of the Falling-sicknesse, turn him upon his belly, and anoint his back from the *Os sacrum* to the ridge-bone, and it will presently deliver him from the fit: but after seven times using, it will perfectly cure him. The Oyl thus made must be kept in a Box. This medicine following is a present remedy against the Gowt. Take the head and feet of a Chamæleon, cut off also the outward parts of the knees and feet, and then keep by themselves those parts: that is to say, the parts of the right leg by themselves, and the parts of the left leg by themselves, then touch the Nail of the Chamæleon with your thumb and right finger of your hand, dipping the tips of your fingers of the right hand in the blood of the right foot of the Beast: and so likewise the fingers of the left hand in the blood of the left foot, then include those parts in two little pipes, and so let the sick person carry the right parts in the right hand, and the left parts in the left hand, until he be cured: and this must be remembered, that he must touch every morning about the Sun-rising the said Chamæleon, yet living and lapped in a linnen cloth, with those parts that are oppressed with the Gowt.

The like superstitious and Magical devises are these that follow, as they are recorded by *Pliny* and *Democritus*. The head and throat being set on fire with wood of Oak, they believe to be good against Thunder and Rain, and so also the liver burned on a Tyle. If the right eye be taken out of it alive, and applyed to the whitenesse of the eyes in Goats milk, it is thought to cure the same. The tongue bound to a woman with child, preserveth her from danger in childe-birth, if the same tongue be taken from the Beast alive, it is thought it fore-sheweth the event of judgement. The Heart wrapped in black Wooll of the first shearing, by wearing it cureth a quartane Ague; the right claw of the fore-feet bound to the left arm with the skin of his cheeks, is good against robberies and terrors of the night, and the right pap against all fears. If the left foot be scorched in a furnace with the herb Chamæleon, and afterward putting a little Ointment to it, and made into little Pasties, so being carried about in a wooden box, it maketh the party to go invisible. The right shoulder maketh a man to prevail against his adversaries, if they do but tread upon the nerves cast down upon the earth. But the left shoulder they consecrate the same to monstrous dreams, as if that thereby a man might dream what he would in his own person and effect, the like in others.

With the right foot are all Palsies resolved, and with the left foot all Lethargies: the Wine wherein one side of a Chamæleon hath been steeped, sprinkled upon the head, cureth the ach thereof. If Swines Grease be mingled with the powder of the left foot or thigh, and a mans foot be anointed therewith, it bringeth the Gowt, by putting the gall into fire, they drive away Serpents; and into Water, they draw together Weasels, it pulleth off hair from the body, so also doth the Liver, with the lights of a Toad; likewise the Liver dissolveth amorous Inchantments. Melancholy men are cured by drinking the juyce of a Chamæleon out of a Chamæleons skin. They also say, that the Intrails and dung of this Beast washed in the urine of an Ape, and hung up at our enemies gates, causeth reconciliation.

With the tail they bring Serpents asleep, and stay the flowing of the floods and waters: the same mingled with Cedar and Myrrhe, bound to two rods of Palm, and struck upon water, causeth all things that are contained in the same water to appear; but I would to GOD that such Magicians were well beaten with Rods of stronger wood, until they forsook these magical fooleries: And thus much for the story of the Chamæleon.

of the COCKATRICE.



THIS Beast is called by the *Grecians*, *Basiliscos*, and the *Latines* *Regulus*, because he seemeth to be the King of Serpents, not for his magnitude or greatnesse. For there are many Serpents bigger then he, as there be many four-footed Beasts bigger then the Lyon, but because of his stately pace, and magnanimous minde; for he creepeth not on the earth like other Serpents, but goeth half upright, for which occasion all other Serpents avoid his sight. And it seemeth nature hath ordained him for that purpose: for beside the strength of his poyson which is uncurable, he hath a certain combe or Coronet upon his head, as shall be shewed in due place. It is also call'd *Sibilus*, as we read in *Isidorus*, *Sibilus enim occidit antequam mordeat vel exurat*: The Cockatrice killeth before it burneth. The *Hebrews* call it *Petben*, and *Curman*, also *Zaphna*, and *Zaphnaini*. The *Chalde*, *Harmene*, and also *Carmene*: The *Egyptian*, *Urem*; the *Germans*, *Ein Ertz Schlengle*; the *French*, *Un Basilic*; the *Spaniards* and *Italians*, *Basilisco*.

There is some question amongst Writers, about the generation of this Serpent: for some (and those very many and learned) affirm him to be brought forth of a Cocks Egge. For they say that when a Cock groweth old, he layeth a certain Egge without any shell, in stead whereof it is covered with a very thick skin, which is able to withstand the greatest force of an easie blow or fall. They say moreover, that this Egge is laid only in the Summer time, about the beginning of Dog-days, being not long as a Hens Egge, but round and orbicular: Sometimes of a dusty, sometimes of a boxy, sometimes of a yellowish muddy colour, which Egge is generated of the putrefied seed of the Cock, and afterward set upon by a Snake or a Toad, bringeth forth the Cockatrice, being half a foot in length, the hinder-part like a Snake, the former part like a Cock, because of a treble combe on his fore-head.

But the vulgar opinion of *Europe* is, that the Egge is nourished by a Toad, and not by a Snake; howbeit in better experience it is found that the Cock doth sit on that Egge himself: whereof *Levinus Lemnius* in his twelfth Book of the hidden miracles of nature hath this discourse, in the fourth Chapter thereof. There happened (saith he) within our memory in the City of *Pirizaa*, that there were two old Cocks which had laid Egges, and the common people (because of opinion that those Egges would engender Cockatrices) laboured by all means possible to keep the said Cocks from sitting on those Egges, but they could not with clubs and staves drive them from the Egges, until they forced to break the Egges in sunder, and strangle the Cocks. But this point is worth inquiry, whether a Cock can conceive an Egge, and after a certain time lay the same without a shell. I for my part am perswaded, that when a Cock groweth old, and ceaseth to tread his female in the ordinary course of nature, which is in the seventh or ninth year of his age, or at the most in the fourteenth, there is a certain concretion bred within him by the putrefied heat of his body, through the staying of his seed generative, which hardeneth unto an Egge, and is covered with such a shell, as is said already: the which Egge being nourished by the Cock or some other beast, bringeth forth a venomous Worm, such as are bred in the bodies of men, or as Wasps, Horse-flies, and Caterpillers engendered of Horse-dung, or other putrefied humors of the earth:

and so out of this Egge may such a venomous Worm proceed, as in proportion of body, and pestiferous breath, may resemble the *African Cockatrice* or *Basilisk*, and yet it is not the same whereof we purpose here to intreat, but will acknowledge that to be one kinde of *Cockatrice*, but this kinde is generated like other Serpents of the earth, for as the ancient *Hermes* writeth, it is both false and impossible, that a *Cockatrice* should be hatched of a *Cocks* Egge. The same writer maketh mention of a *Basilisk* ingendered in dung, whereby he meaneth the *Elixir* of life, wherewithal the *Alchymists* convert metals.

The *Egyptians* hold opinion, that these *Cockatrices* are ingendered of the Egges of the Bird called *Ibis*, and therefore they break those Egges wheresoever they finde them: and for this cause in their Hieroglyphicks, when they will signifie a lawful execution after an upright judgment, and sound institution of their fore-fathers, they are wont to make an *Ibis*, and a *Cockatrice*.

Pliny.
Tector.
Avicenna.
Ælianus.
Solinus.

The Countries breeding or bringing forth these *Cockatrices*, are said to be these: First *Africk*, and therein the ancient seat or land of the *Turks*, *Nubia*, and all the Wildernesse of *Africa*, and the Countries *Cyrenes*. *Galen* among the Physitians only, doubteth whether there be a *Cockatrice* or no, whose authority in this case must not be followed, seeing it was never given to mortal man to see and know every thing, for besides the holy Scriptures unavoidable authority, which both in the prophesie of *Esay* and *Jeremy*, maketh mention of the *Cockatrice* and her Egges: there be many grave humane Writers, whose authority is irrefragable, affirming not only that there be *Cockatrices*, but also that they infect the air, and kill with their sight. And *Mercurialis* affirmeth, that when he was with *Maximilian* the Emperor, he saw the carcase of a *Cockatrice*, reserved in his treasury among his undoubted monuments. Of this Serpent the Poet *Georgius Pictorius* writeth on this manner;

*Rex est Serpentum Basiliscus, quem modo vincunt
Mustela insultus, sevaque bella fera.
Lernaum vermem Basiliscum fœda Cyrene
Producit cunctis maxime perniciem.*

*Et nasci ex ovo galli, si credere fas est,
Decrepiti, infimo, sole nitente, docent.
Sed quoniam olfactu lœdit, visuque ferarum
Omne genus, credas nulla tenere bona.*

That is to say;

*The Basilisk the Serpents King I finde,
Yet Weasels him do overcome in warre,
The Cyren land him breeds of Lernaes kinde,
They to all other a destruction are:*

*And if we may believe, that through the heat of Sun,
In old Cocks Egges this beast is raised first,
Or beasts by sight or smell thereof are all undone,
Then is't not good, but of his kinde the worst.*

We do read that in *Rome*, in the days of Pope *Leo* the fourth, there was a *Cockatrice* found in a Vault of a Church or Chappel, dedicated to Saint *Lucea*, whose pestiferous breath had infected the air round about, whereby great mortality followed in *Rome*: but how the said *Cockatrice* came thither it was never known. It is most probable that it was created and sent of *GOD* for the punishment of the City, which I do the more easily believe, because *Sigonius* and *Julius Scaliger* do affirm, that the said pestiferous beast was killed by the prayers of the said *Leo* the fourth.

I think they mean that by the authority of the said Bishop, all the people were moved to general fasting and prayer, and so Almighty *GOD* who was moved for their sins, to send such a plague amongst them, was likewise intreated by their prayers and suits, not only to reverse the plague, but with the same hand to kill the beast, wherewithal it was created: even as once in *Egypt* by the hand of *Moses*, he brought Grasse-hoppers and Lice, so by the same hand he drove them away again.

There is some small difference amongst the Writers, about the quantity and parts of this Serpent: which I will briefly reconcile. First *Ælianus* saith, that a *Cockatrice* is not past a span in compasse, that is as much as a man can gripe in his hand. *Pliny* saith, that it is as big as twelve fingers. *Solinus* and *Isidorus* affirm, that it is but half a foot long.

Avicen saith, that the *Arabian Harmena*, that is, the *Cockatrice*, is two cubits and a half long. *Nicander* saith, *Et tribus extenso porrectus corpore palmis*, that is, it is in length but three palms. *Aetius* saith, that it is as big as three handfuls. Now for the reconciliation of all these. It is to be understood, that *Pliny* and *Ælianus* speaketh of the Worm that cometh out of the *Cocks* Egge, in regard of the length, but not of the quantity, and so confound together that Worm and the *Cockatrice*. For it is very reasonable, that seeing the magnitude and greatnesse of the Serpent is concluded to be at the least a span in compasse, that therefore the length of it must needs be three or four foot at the shortest; else how could it be such a terror to other Serpents, or how could the fore-part of it arise so eminently above the earth, if the head were not lifted at the least a foot from the ground. So then we will take it for granted, that this Serpent is as big as a mans wrist, and the length of it answerable to that proportion.

It is likewise questionable whether the *Cockatrice* have wings or no: for by reason of his conceived generation from a *Cock*, many have described him in the fore-part to have wings, and in the hinder part to have a tail like a Serpent: And the conceit of wings seemeth to be derived from holy Scripture, because it is written *Esay* 14. vers. 29. *De radice colubri egredietur regulus & seminis ejus absorbens volucres*: That is to say, Out of the Serpents roots shall come a *Cockatrice*, and the fruit thereof shall be a fiery flying Serpent, as we translate it in English: but *Tremellius* the best Interpreter, doth render the *Hebrew* in this manner: *De radice Serpentis prodiit hemorrhas & fructus illius prester volans*: That is to say, word for word, Out of the root of the Serpent shall come the *Hemorrhe*,

Hemorrhoe, and the fruit thereof a flying *Prester*. Now we know, that the *Hemorrhoe* and the *Prester* are two other different kinds of Serpents from the Cockatrice; and therefore these Interpreters being the more faithful and learned, we will rather follow the holy Scripture in their translation, then the vulgar *Latine*, which is corrupted in very many places, as it is also *Esay* the 30. vers. 6. For *Prester* there is again in the vulgar translation the Cockatrice: and for this cause we have not described the Cockatrice with wings, as not finding sufficient authority to warrant the same.

The eyes of the Cockatrice are red, or somewhat inclining to blacknesse, the skin and carcase of this beast have been accounted precious, for we do read that the *Pergameni* did buy but certain pieces of a Cockatrice, and gave for it two pound and a half of silver: and because there is an opinion that no Bird, Spider, or venomous beast, will indure the sight of this Serpent, they did hang up the skin thereof stuffed, in the Temples of *Apollo* and *Diana*, in a certain thin net made of gold: and therefore it is said, that never any Swallow, Spider, or other Serpent durst come within those Temples: And not only the skin or the sight of the Cockatrice worketh this effect, but also the *Solinus*, flesh thereof, being rubbed upon the pavement, posts or walls of any House. And moreover, if *Scaliger*, Silver be rubbed over with the powder of the Cockatrices flesh, it is likewise said, that it giveth it a tincture like unto gold: and besides these qualities, I remember not any other in the flesh or skin of this Serpent.

The hissing of the Cockatrice which is his natural voyce, is terrible to other Serpents, and therefore as soon as they hear the same, they prepare themselves to fly away, according to these verses of *Nicander*;

*Illius auditis expectant nulla susurros,
Quantumvis magnis sinuent animalia spiras,
Quando vel in postum, vel opace devia silve,*

*Irriguisse locos, media sub luce diei
Excandescunt succensa furore feruntur,
Sed turpi conversa fuga dant terga retrorsum.*

Which may be Englished thus;

*When as the greatest winding Serpents bear,
(Feeding in Woods or pasture all abroad,
Although inclos'd in many spires, yet fear:
Or in mid-day the shadows near Brooks road,*

*The fearful hissing of this angry beast,
They run away, as fast as feet can lead them,
Flying his rage unto some other rest,
Turning their backs whereby they do escape him.*

We read also that many times in *Africa*, the Mules fall down dead for thirst, or else lye dead on the ground for some other causes, unto whose Carcase innumerable troops of Serpents gather themselves to feed thereupon: but when the Basilisk windeth the said dead body, he giveth forth his voyce: at the first hearing whereof, all the Serpents hide themselves in the near adjoining sands, or else run into their holes, not daring to come forth again, until the Cockatrice have well dined and satisfied himself. At which time he giveth another signal by his voyce of his departure: then come they forth, but never dare meddle with the remnants of the dead beast, but go away to seek some other prey. And if it happen that any other pestiferous beast come unto the waters to drink near the place wherein the Cockatrice is lodged, so soon as it perceiveth the presence thereof, although it be not heard nor seen, yet it departeth back again, without drinking, neglecting his own nutriment, to save it self from further danger; whereupon *Lucanus* saith;

Ælianus

Latet sibi submovet omne

Vulgus, & in vacua regnat Basiliscus arena.

Which may be thus Englished;

He makes the vulgar far from him to stand,

While Cockatrice alone reigns on the sand.

So then it being evident that the hissing of a Cockatrice is terrible to all Serpents, and his breath and poyson mortall to all manner of Beasts; yet hath God in nature not left this vile Serpent without an enemy; for the Weasel and the Cock are his triumphant Victors; and therefore *Pliny* saith well: *Huic tali monstro quod sapa enethum concupivere reges videre, mustelatum virus exitio est, adeo natura nihil placuit esse sine pari*: That is to say, This monster which even Kings have desired to see when it was dead, yet is destroyed by the poyson of Weasils, for so it hath pleased Nature, that no Beast should be without his match.

The people therefore when they take Weasils, after they have found the Caves and lodging places of the Cockatrices, which are easily discerned by the upper face of the earth, which is burned with their hot poyson, they put the Weasil in unto her; at the sight whereof the Cockatrice flyeth like a weakling overmatched with too strong an adversary, but the Weasil followeth after and killeth her. Yet this is to be noted, that the Weasil both before the fight and after the slaughter, armeth her self by eating of Rue, or else she would be poysoned with the contagious air about the Cockatrice: and besides this Weasil, there is no other beast in the World which is able to stand in contention against the Cockatrice, saith *Lennius*.

Again, even as a Lyon is afraid of a Cock, so is the Basilisk, for he is not only afraid at his sight, but almost dead when he heareth him crow, which thing is notoriously known throughout all *Africa*. And therefore all Travellers which go through the Deserts, take with them a Cock for their safe conduct against the poyson of the Basilisk: and thus the crowing of the Cock is a terror to Lyons, and a death to Cockatrices, yet he himself is afraid of a Kite.

There

There are certain learned Writers in *Saxony*, which affirm, that there are many kindes of Serpents in their Woods; whereof one is not unlike to a Cockatrice: for they say it hath a very sharp head, a yellow colour, in length not exceeding three Palms, of a great thicknesse, his belly spotted and adorned with many white pricks: the back blew, and the tail crooked and turned up: but the opening of his mouth is far wider then the proportion of his body may seem to bear. These Serpents may well be referred to Cockatrices: for howsoever their poyson is not so great as the Basilisks of *Africa*, (even as all other Serpents of the hot Countries are far more pestiferous then those which are bred in the cold Countries:) the very same reason perswadeth me, that there is a difference among the Cockatrices, and that those of *Saxonia* may differ in poyson from those in *Africa*, and yet be true Cockatrices: Besides this, there is another reason in *Lemnius*, which perswadeth the Reader there are no Cockatrices; because when the Countrey men set upon them to kill them with Clubs, Bills, or Forks, they receive no hurt at all by them, neither is their any apparent contagion of the air: but this is answered already, that the poyson in the cold Countrey is nothing so great as in the hot; and therefore in *Saxony* they need fear the biting, and not the airs infection.

Cardan relateth another story of a certain Serpent, which was found in the walls of an old decayed House in *Millan*, the head of it (saith he) was as big as an Egge, too big for the body, which in quantity and shape resembled a Stellion. There were teeth on either chap, such as are in Vipers. It had two legs, and those very short, but great, and their feet had claws like a Cats: so that when it stood it was like a Cock, for it had a bunch on the top of the head, and yet it wanted both feathers and wings: The tail was as long as the body, in the top thereof there was a round bunch as big as the head of an *Italian* Stellion. It is very likely that this beast is of the kinde of Cockatrices.

Now we are to intreat of the poyson of this Serpent, for it is a hot and venomous poyson, infecting the air round about, so as no other creature can live near him; for it killeth, not only by his hissing and by his sight, (as is said of the Gorgons,) but also by his touching, both immediately and mediately; that is to say; not only when a man toucheth the body it self, but also by touching a Weapon wherewith the body was slain, or any other dead beast slain by it; and there is a common fame, that a Horse-man taking a Spear in his hand, which had been thrust through a Cockatrice, did not only draw the poyson of it into his own body and so dyed, but also killed his Horse thereby. *Lucan* writeth;

*Quid prodest miseri Basiliscus cuspide Mauri
Transactis? velox currit pertela venenum,
Invadit manum equumque.*

In English thus;

*What had the Moore to kill
The Cockatrice with Spear,
Sith the swift poyson him did spill,
And Horse that did him bear.*

Ponzettus.

The question is in what part of this Serpent the poyson doth lie; some say in the head alone, and that therefore the Basilisk is deaf, because the Air which serveth the Organ of hearing, is resolved by the intensive calidity: but this seemeth not to be true, that the poyson should be in the head only, because it killeth by the fume of the whole body, and besides when it is dead it killeth by only touching it, and the Man or Beast so slain, doth also by touching kill another: Some again say, that the poyson is in the breast, and that therefore it breatheth at the sides, and at many other places of the body, through and betwixt the scales; which is also true, that it doth so breath: for otherwise the burning fume that proceedeth from this poysonful beast, would burn up the Intrails thereof, if it came out of the ordinary place; and therefore Almighty GOD hath so ordained, that it should have spiraments and breathing places in every part of the body, to vent away the heat, lest that in very short time, by the inclusion thereof, the whole compage and juncture of the body should be utterly dissolved, and separated one part from another.

But to omit inquiry in what part of his body the poyson lyeth, seeing it is most manifest that it is universal, we will leave the seat thereof, and dispute of the instruments and effects.

First of all therefore it killeth his own kinde, by sight, hearing, and touching. By his own kinde, I mean other Serpents, and not other Cockatrices, for they can live one beside another, for if it were true (which I do not believe) that the *Arabian Harmene* were any other Serpent then a Cockatrice, the very same reason that *Ardoynus* giveth of the fellowship of these two Serpents together, (because of the similitude of their natures) may very well prove that no divers kindes can live so well together, in safety without harming one another, as do one and the same kinde together. And therefore there is more agreement in nature betwixt a Cockatrice and a Cockatrice, then a Cockatrice and *Harmene*, and it is more likely that a Cockatrice doth not kill a Cockatrice, then that a Cockatrice doth not kill an *Harmene*: And again, Cockatrices are engendered by Egges, according to the holy Scripture; and therefore one of them killeth not another by touching, hissing, or seeing, because one of them hatcheth another. But it is a question whether the Cockatrice dye by the sight of himself: some have affirmed so much, but I dare not subscribe thereunto, because in

reason

reason it is impossible that any thing should hurt it self, that hurteth not another of his own kinde, yet if in the secret of nature GOD have ordained such a thing, I will not strive against them that can shew it.

And therefore I cannot without laughing, remember the old Wives tales of the Vulgar Cockatrices that have been in England; for I have oftentimes heard it related confidently, that once our Nation was full of Cockatrices, and that a certain man did destroy them by going up and down in Glasse, whereby their own shapes were reflected upon their own faces, and so they dyed. But this fable is not worth refuting, for it is more likely that the man should first have dyed by the corruption of the air from the Cockatrices, then the Cockatrices to die by the reflection of his own similitude from the glasse, except it can be shewed that the poysoned air could not enter into the glasse where the man did breath.

Among all living creatures, there is none that perisheth sooner then doth a man by the poyson of a Cockatrice, for with his sight he killeth him, because the beams of the Cockatrices eyes, do corrupt the visible spirit of a man, which visible spirit corrupted, all the other spirits coming from the brain and life of the heart, are thereby corrupted, and so the man dyeth: even as women in their monthly courses do vitiate their looking-glasses; or as a Wolf suddenly meeting a Man, taketh from him his voyce, or at the least-wile maketh him hoarse.

To conclude, this poyson infecteth the air, and the air so infected killeth all living things, and likewise all green things, fruits, and plants of the earth: it burneth up the grasse whereupon it goeth or creepeth, and the fowls of the air fall down dead when they come near his den or lodging. Sometimes he biteth a Man or a Beast, and by that wound the blood turneth into choler, and so the whole body becometh yellow as gold, presently killing all that touch it, or come near it. The symptoms are thus described by Nicander, with whose words I will conclude this History of the Cockatrice, writing as followeth:

*Quod ferit hic, multo corpus succenditur igne,
A membris resoluta suis caro defluit, & fit
Lurida & obscuro nigrescit opaca colore.
Nullæ etiam volucres quæ sædæ cadavera pascunt,
Sic occisum hominem tangunt, ut vultur, & omnes:
Huic similes alia, pluvie quoque nuntius aure*

Which may be Englished thus;

*When he doth strike, the body hurt is set on fire,
And from the members falleth off the flesh, with ball,
It rotten is, and in the colour black as any mire.
Refus'd of carrion-feeding-birds both great and small
Are all men so destroy'd, No Vulture or Biter fierce,
Or Weather telling-crow, or Desarts wildest beast,*

*Corvus, nec quæcumq; fera per devia lustra
Degunt, è tali capium sibi tabula carne.
Tum teter vacuum odor hinc exhalat in auras,
Atque propinquantes penetrant non segniter artus:
Sin cogente fame veniens approximet alet,
Tristia fata refert, certamq; ex aere mortem.*

*Which live in dens sustaining greatest famines force,
But at their tables do this flesh detest.
Then is the air repleat with's loathsome smell,
Piercing vital parts of them approaching neer,
And if a bird it tast to fill his hunger fell,
It dies assured death, none need it fear.*

Of the CORDIL.

Although I finde some difference about the nature of this living creature, and namely whether it be a Serpent or a Fish, yet because the greater and better part make it a Serpent, I will also bring it in his due order in this place for a venomous Beast. Gesner is of opinion, that it is no other but a Lizard of the Water; but this cannot agree with the description of Aristotle and Bellonius, who affirm the Cordil to have Gills like a Fish, and these are not found in any Lizard. The Grecians call this Serpent *Kordule*, and *Kordulos*, whereof the Latines derive or rather borrow their *Cordulus*, and *Cordyla*. Numenius maketh this a kinde of Salamander which the Apothecaries do in many Countries falsely sell for the *Scincus* or Crocodile of the earth, and yet it exceedeth the quantity of a Salamander, being much lesse then the Crocodile of the earth, having gills, and wanting fins on the sides, also a long tail, and according to the proportion of the body, like a Squirrels, although nothing so big, without scabs: the back being bald and somewhat black, and horrible rough, through some bunches growing thereupon, which being pressed do yeeld a certain humor like milk; which being laid to the Nostrils doth smell like poyson, even as it is in a Salamander. The beak or snout is very blunt or dull, yet armed with very sharp teeth. The claws of his fore-legs are divided into four, and on his hinder-legs into five: there is also a certain fleshy fin growing all along from the crown of his head, unto his tail upon the back, which when he swimmeth he erecteth, and by it is his body sustained in the water from sinking, for his body is moved with crooked winding, even as an Eel or a Lamprey.

The inward parts of this Serpent are also thus described. The tongue is soft and spungy, like as is the tongue of a Water-frog, wherewith as it were with glew, he draweth to his mouth, both Leeches and Worms of the earth, whereupon it feedeth. At the root of his tongue there is a certain bunch of flesh, which as I think supplyeth the place of the lights, for when it breatheth, that part is especially moved, and it panteth to and fro, so that thereby I gather, either it hath the lights in that place, or else in some other place near the jaws. It wanteth ribs as doth the Salamander, and it hath certain bones in the back, but not like the ordinary back-bone of other such Serpents. The heart is also all spungy, and cleaveth to the right side, not to the left: the left ear whereof supplyeth the place of the Pericardium,

The

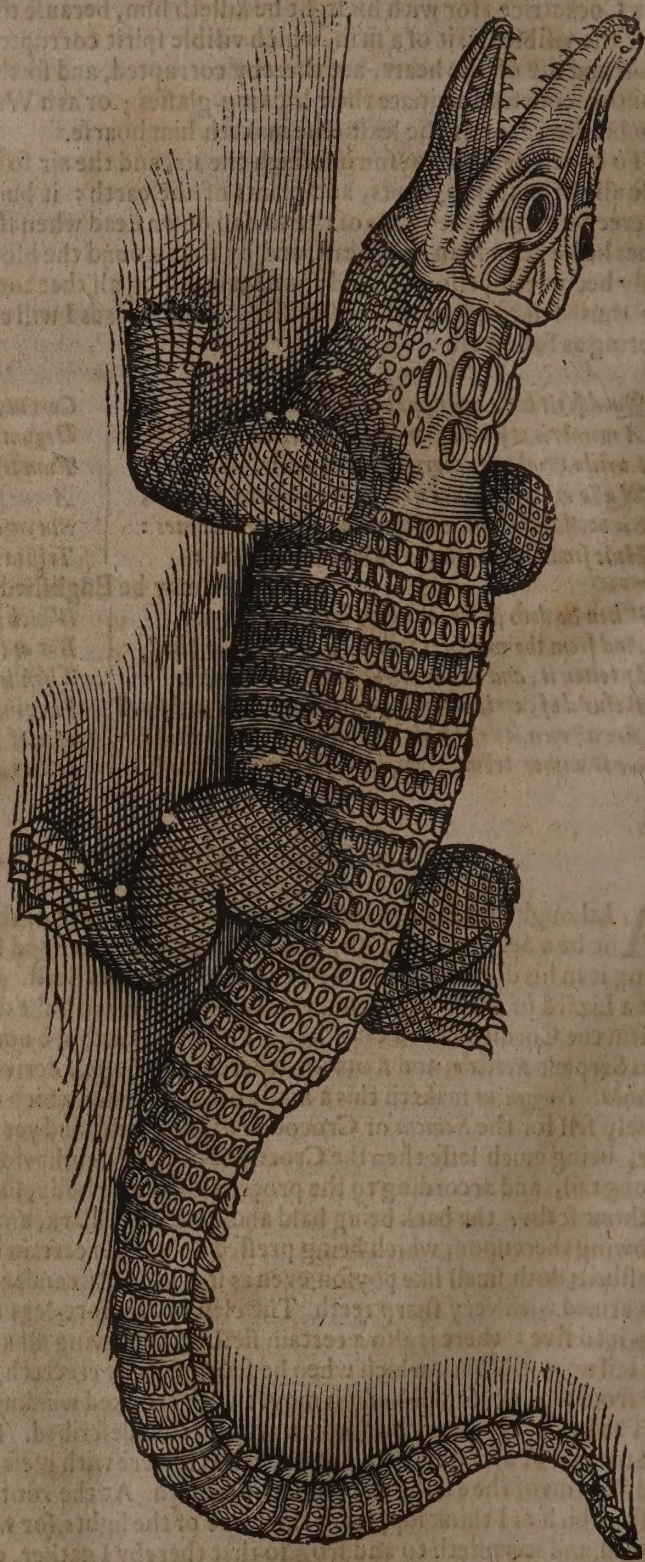
The liver is very black, and somewhat cloven at the bending or sloap side: the milt somewhat red, cleaving to the very bottom of the ventricle. The reins are also very spongy, joynd almost to the legs, in which parts it is most fleshy, but in other places, especially in the belly and breast, it is all skin and bone. It also beareth egges in her place of conception, which is forked or double, which are there disposed in order, as in other living gristly creatures. Those Egges are nourished with a kinde of red fat, out of which in due time come the young ones alive, in as great plenty and number as the Salamanders. And these things are reported by *Bellonius*, besides whom I finde nothing more said, that is worthy to be related of this Serpent, and therefore I will here conclude the History thereof.

of the CROCODILE.

BEcause there be many kindes of Crocodiles, it is no marvel although some have taken the word *Crocodilus* for the Genus, and the several Species, they distinguish into the Crocodile of the earth and the water. Of the earth are sub-divided into the Crocodiles of *Bresilia*, and the *Scincus*: the Crocodiles of the water into this here described, which is the vulgar one, and that of *Nilus*; of all which we shall entreat in order, one successively following another. But I will not contend about the Genus or Species of this word, for my purpose is to open their several natures, so far as I have learned, wherein the works of Almighty God may be known, and will leave the strife of words to them that spend their wits about tearms and syllables only. Thus much I finde, that the Ancients had three general tearms for all egge-breeding Serpents. Namely, *Rana*, *Testudo*, *Lacerta*: And therefore I may forbear to entreat of *Crocodilus* as a Genus, and handle it as a Species, or particular kinde. The Hebrews have many words which they use for a Crocodile. *Koah*, Levit. 11. which the *Arabians* render *Hardun*; and the *Persians*, *Sanga*, which word cometh near the Latine word *Scincus* for a Crocodile of the earth, and yet that word *Koah* by Saint *Jerom*, and the *Septuagints* is translated a Chameleon.

In the same place of Leviticus the word *Zab* is interpreted a kinde of Crocodile wherewithall *David Kimhi* confoundeth *Greschint*, and *Rabbi Solomon*, *Faget*. The *Chaldees* translate it *Zaba*; the *Persians*, *An Rasu*; the *Septuagints*, a Crocodile of the earth; but it is better to follow Saint *Hierom* in the same, because the Text addeth according to his kinde, wherefore it is superfluous to adde the distinction of the Crocodile of the earth, except it were lawful to eat the Crocodiles of the water.

In *Exod. 8.* there is a fish called *Zephardea*, which cometh out of the waters and eateth men, this cannot agree to any fish in *Nilus*, save only the Crocodile; and therefore this word is by the *Arabians* rendered *Al Timasch*. Some do hereby



by understand *Pagulera*, *Grenelera*, and *Batrachoi*, that is great Frogs. *Aluka* by the most of the Jews understand a Horseleach, Prov. 30. but *David Kimbi* taketh and useth it for a Crocodile. For he saith, it is a great Worm, abiding neer the Rivers sides, and upon a sudden setteth upon men or cat-tel as they passe beside him. *Tisma* and *Alinsa* are by *Avicen* expounded for a Crocodile; and *Tenchea* for that Crocodile that never moveth his neather or under chap.

Strabo saith, that in the Province of *Arfinoe* in *Egypt*, there is a holy Crocodile, worshipped by the Inhabitants, and kept tame by the Priests in a certain Lake, this sacred Crocodile is called *Suchus*, and this word cometh neer to *Scincus*, which as we have said, signifieth any Crocodile of the earth, from which the *Arabian Tinsa* semeth also to be derived, as the *Egyptian Thampfai* doth come neer to the *Arabian Trenisa*. *Herodotus* calleth them *Champfai*, and this was the old *Ionian* word for a Vulgar Crocodile in hedges. Upon occasion whereof *Scaliger* saith, he asked a *Turk* by what name they call a Crocodile at this day in *Turky*, and he answered *Kimpfai*, which is most evidently corrupted from *Champfai*.

The *Egyptians* vulgarly call the Crocodile of *Nilus*, *Cocatrix*, the *Grecians*, *Neilokrokodelos*, generally *Krocodelos*, and sometimes *Dendrites*. The *Latines*, *Crocodylus*; and *Albertus*, *Crocodylus*, and the same word is retained in all languages of *Europe*. About the Etymology of this word, I finde two opinions not unprofitable to be rehearsed: the first, that *Crocodylus* cometh of *Croesus*, Saffron, because this Beast, especially the Crocodile of the earth, is afraid of Saffron, and therefore the Countrey people, to defend their Hives of Bees and Honey from them, strow upon the places Saffron. But this is too far fetched, to name a Beast from that which it feareth, and being a secret in nature, it is not likely that it was discovered at the first, and therefore the name must have some other investigation.

Isidorus saith, that the name *Crocodylus* cometh of *Croceus color*, the colour of Saffron, because such is the colour of the Crocodile: and this seemeth to be more reasonable. For I have seen a Crocodile in *England* brought out of *Egypt* dead, and killed with a Musket, the colour whereof was like to Saffron growing upon stalks in fields. Yet it is more likely, that the derivation of *Varinus* and *Eustathius* was the original, for they say that the shores of sands on the Rivers, were called *Croce* and *Crocule*: and because the Crocodiles haunt and live in those shores, it might give the name to the Beasts, because the water Crocodiles live and delight in those sands, but the land or earth Crocodiles abhor and fear them.

It is reported that the famous Grammarian *Artemidorus* seeing a Crocodile lying upon the sands, he was so much touched and moved therewith, that he fell into an opinion that his left leg and hand were eaten off by that Serpent, and that thereby he lost the remembrance of all his great learning and knowledge of Arts. And thus much for the name of this Serpent. *Aurelianus.*

In the next place we are to consider the Countries wherein Crocodiles are bred, and keep their habitation, and those are especially *Egypt*, for that only hath Crocodiles of both kinds, that is, of the water and of the land, for the Crocodiles of *Nilus* are *Amphibii*, and live in both elements: they are not only in the River *Nilus*, but also in all the pools near adjoining. The River *Bambotus* neer to *Atlas* in *Africa*, doth also bring forth Crocodiles: and *Pliny* saith, that in *Darat* a River of *Mauritania*, there are Crocodiles ingendered. Likewise *Apollonius* reporteth, that when he passed by the River *Indus*, he met with many Sea-horses and Crocodiles, such as are found in the River *Nilus*, and besides these Countries I do not remember any other, wherein are ingendered Crocodiles of the water, which are the greatest and most famous Crocodiles of all other. *Aristotle.*
Mela.
Diod. Sicul.

The Crocodiles of the earth, which are of lesser note and quantity, are more plentiful, for they are found in *Lybia*, and in *Bythinia*, where they are called *Azavitia*, and in the Mountain *Syagrus* in *Arabia*, and in the Woods of *India*, as is well observed by *Arianus*, *Dioscorides*, and *Hermolans*, and therefore I will not prosecute this matter any further.

The kinds being already declared, it follows that we should proceed to their quantity and several parts. And it appeareth that the water Crocodile is much greater, and more noble then the Crocodiles of the earth; for they are not above two cubits long, or sometimes eight at the most, but the other are sixteen, and sometimes more. And besides, these Crocodiles, if they lay their eggs in the water (saith *Bellunensis*) then their young ones are much greater, but if on the land, then they are lesser, and like the Crocodiles of the earth. In the River *Ganges* there are two kinds of Crocodiles, one of them is harmlesse, and doth no hurt to any creature, but the other is a devouring unsatiabable Beast, killing all that he layeth his mouth on, without all mercy or exorable quality, in the top of whose snout there groweth a bunch like a horn. *Marcellinus.*
Herodotus.
Isidore.

Now a Crocodile is like a Lizard in all points (excepting the tail, and the quantity of a Lizard,) yet it layeth an Egge no greater then a Gooses Egge, and from so small a beginning ariseth this monstrous Serpent, growing all his life long, unto the length of fifteen or twenty cubits. And as *Phalaris* witnesseth in the days of *Psammetichus* King of *Egypt*, there was one found of five and twenty cubits long: and before that, in the days of *Amasis*, one that was above six and twenty cubits long, the reason whereof was their long life, and continual growth.

We have shewed already, that the colour of a Crocodile is like to Saffron, that is betwixt yellow and red, more inclining to yellow then red, not unlike to the blacker kinde of *Chamaeleon*: but *Peter Martyr* saith, that their belly is somewhat whiter then the other parts. Their body is rough all over, being covered with a certain bark or rinde, so thick, firm, and strong as it will not yeeld (and especially about the back) unto a cart-wheel when the cart is loaded, and in all the upper parts,

parts, and the tail, it is impenetrable with any dart or spear, yea scarcely to a pistol or small gun, but the belly is softer, whereon he receiveth wounds with more facility: for as we shall shew afterwards, there is a kinde of Dolphin which cometh into *Nilus*, and fighteth with them, wounding them on the belly parts.

Cælius Rho.

The covering of their back is distinguished into divers divided shells, standing up far above the flesh, and towards the sides they are lesse eminent, but on the belly they are more smooth, white, and very penetrable. The eyes of a Crocodile of the water, are reported to be like unto a Swines, and therefore in the water they see very dimly, but out of the water they are sharp and quick sighted, like to all other four-footed Serpents that lay egges. They have but one eye-lid, and that groweth from the neather part of the cheek, which by reason of their eyes never twinckleth. And the Egyptians say, that only the Crocodile among all the living creatures in the water, draweth a certain thin bright skin from his fore-head over his eyes, wherewithall he covereth his sight: and this I take to be the only cause of his dim sight in the waters.

Herodotus.

Pliny.

Solinus.

Marcellinus.

The head of this Beast is very broad, and his snout like a Swines. When he eateth or biteth, he never moveth his neather or under chap. Whereof *Aristotle* giveth this reason, that seeing Nature hath given him so short feet, as that they are not able to hold or to take the prey, therefore the mouth is framed in stead of feet, so as it may more vehemently strike and wound, and also more speedily move and turn after the prey, and this is better done by the upper then the neather chap. But it is likely that he was deceived, for he speaketh of *Crocodilus marinus*, a Crocodile of the Sea: whereas there is no Crocodile of the Sea, but rather some other monster like a Crocodile in the Sea, and such peradventure *Albertus* saw, and thereupon inconsiderately affirmed, that all Crocodiles move their under-chaps, except the *Teuchea*. But the learned *Vessalius* proveth it to be otherwise, because that the neather-chap is so conjoynd and fastened to the bones of the temples, that it is not possible for to be moved. And therefore the Crocodile only among all other living creatures, moveth the upper-chap, and holdeth the under-chap unmoveable.

Albertus.

Herodotus.

The second wonder unto this, is that the Crocodile hath no tongue, nor so much as any appearance of a tongue. But then the question is, how it cometh to distinguish the saviours and tast of his meat. Whereunto *Aristotle* answereth, that this Crocodile is such a ravening Beast, that his meat carryeth not in his mouth, but is carryed into his stomach, like as other water Beasts, and therefore they discern saviours, and relish their meat more speedily then other; for the water or humor falleth so fast into their mouths, that they cannot stand long upon the tast or distast of their meat. But yet some make question of this, and they answer that most men are deceived herein, for whiles they look for his tongue upon his neather-chap, as it is in all other Beasts, and finde none, they conclude him to want that part: but they should consider, that the tongue cleaveth to the moveable part, and as in other Beasts the neather-chap is the seat of the tongue, because of the motion, so in this the tongue cleaveth to the upper-chap, because that it is moveable, and yet not visible as in other, and therefore is very hardly discerned. For all this, I rather conclude with the former Authors, that seeing it liveth both in the waters and on the land, and therefore it resembleth a fish and a beast, as it resembleth a Beast, *locum obtinet lingue*, it hath a place for a tongue; but as it resembleth a fish, *Elinguis est*, it is without a tongue. It hath great teeth standing out, all of them stand out before visibly when the mouth is shut, and fewer behinde. And whereas *Aristotle* writeth, that there is no living creature which hath both *dentes prominentes, & serratos*, that is, standing out, and divided like a saw, yet the Crocodile hath both. These teeth are white, long, sharp, and a little crooked and hollow, their quantity well resembling the residue of the proportion of the body: and some say, that a Crocodile hath three rows of teeth, like the Lyon of *Chins*, and like the Whale, but this is not an approved opinion, because they have no more then sixty teeth. They have also sixty joynts or bones in the back, which are also tyed together with so many nerves. The opening of his mouth reacheth to the place of his ears, and there be some Crocodiles in *Ganges* which have a kinde of little horn upon their noses or snout. The milt is very small, and this some say is only in them that bring forth egges, their stones are inward and cleave to their loyns. The tail is of the same length that the whole body hath, and the same is also rough and armed with hard skin upon the upper part and the sides, but beneath it is smooth and tender. It hath fins upon the tail, by the benefit whereof it swimmeth, as also by the help of the feet. The feet are like a Bears, except that they are covered with scales in stead of hair; their nails are very sharp and strong, for if it had a thumb as well as it hath feet, the strength thereof would over-turn a ship. It is doubtful whether it hath any place of excrement except the mouth: And thus much for the several parts of the Crocodile.

P. Martyr.

Ælianus.

The knowledge also of the natural actions and inclinations of Crocodiles is requisite to be handled in the next place, because that actions follow the members as sounds do instruments. First therefore, although *Aristotle* for the most part speaking of a Crocodile, calleth it *aquatilis & fluvialis*, yet it is not to confine it to the Waters and Rivers, as though it never came out of them like fishes, but only to note that particular kinde which differeth from them of the earth, for it is certain that it liveth in both elements, namely earth and water: and for the time that it abideth in the water, it also taketh air, and not the humor or moistnesse of the water, yet can they not want either humor of the water or respiration of the air: and for the day time it abideth on the land, and in the night in the water, because in the day, the earth is hotter then the water, and in the night the water warmer then the earth: and while it liveth on the land, it is so delighted with the Sun-

Herodotus.

Pliny.

shine,

thine, and lyeth therein so immoveable, that a man would take it to be stark dead. The eyes of a Crocodile (as we have said) are dull and blinde in the water, yet they appear bright to others, for this cause, when the *Egyptians* will signifie the Sun-rising, they picture a Crocodile looking upward to the earth, and when they will signifie the West, they picture a Crocodile diving in the water, and so for the most part the Crocodile lyeth upon the banks, that he may either dive into the water with speed, or ascend to the earth to take his prey.

By reason of the shortnesse of his feet, his pace is very slow, and therefore it is not only easie to escape from him by flight, but also if a man do but turn aside and winde out of the direct way, his body is so unable to bend it self, that he can neither winde nor turn after it. When they go under the earth into their caves, like to all fore-footed and egge-breeding Serpents, as namely Lizards, Stellions, and Tortoises, they have all their legs joyned to their sides, which are so retorted as they may bend to either side; for the necessity of covering their egges; but when they are abroad, and go bearing up all their bodies, then they bend only outward, making their thighs more visible. It is somewhat questionable, whether they lye hid within their caves four months or sixty days, for some Authors affirm one thing, and some another, but the reason of the difference is taken from the condition of the cold weather, for which cause they lye hid in the Winter time. Now forasmuch as the Winter in *Egypt* is not usually above four months, therefore it is taken that they lie but four months, but if it be by accident of cold weather prolonged longer, then for the same cause the Crocodile is longer time in the earth. During the time they lie hid, they eat nothing, but sleep (as it is thought) immoveably, and when they come out again, they do not cast their skins as other Serpents do.

The tail of a Crocodile is his strongest part, and they never kill any beast or man, but first of all they strike him down and astonish him with their tails, and for this cause, the *Egyptians* by a Crocodiles tail do signifie death and darknesse. They devour both men and beasts if they finde them in their way, or neer the bankes of *Nilus*, wherein they abide, taking sometimes a calf from the Cow his Dam, and carrying it whole into the waters. And it appeareth by the pourtraiture of *Neacles*, that a Crocodile drew in an Asse into *Nilus* as he was drinking, and therefore the Dogs of *Egypt* by a kinde of natural instinct, do not drink but as they run, for fear of the Crocodiles: whereupon came the proverb, *Ut Canis à Nilo bibit & fugit*, as a Dog at one time drinketh and runneth by *Nilus*.

When they desire fishes, they put their heads out of the water as it were to sleep, and then suddenly when they espy a booty, they leap into the waters upon them and take them. After that they have eaten and are satisfied, then they turn to the land again; and as they lie gaping upon the earth, the little bird *Trochilus* maketh clean their teeth, and is satisfied by the remainders of the flesh sticking upon them. It is also affirmed by *Arnoldus*, that it is fed with mud, but the holy Crocodile in the Province of *Arfinoe*, is fed with bread, flesh, wine sweet and hard, sod flesh and cakes, and such like things as the poor people bring unto it when they come to see it. When the *Egyptians* will write a man eating or at dinner, they paint a Crocodile gaping.

They are exceeding fruitful and prolificall, and therefore also in Hieroglyphicks they are made to signifie fruitfulness. They bring forth every year, and lay their egges in the earth or dry land. For during the space of thescore days they lay every day an Egge, and in the like space they are hatched into young ones, by sitting or lying upon them by course, the male one while, and the female another. The time of their hatching is in a moderate and temperate time, otherwise they perish and come to nothing, for extremity of heat spoyleth the egge, as the buds of some trees are burned and scorched off by the like occasion. The egge is not much greater then the egge of a Goose, and the young one out of the shell is of the same proportion. And so from such a small beginning doth this huge and monstrous Serpent grow to his great stature, the reason whereof (saith *Aristotle*) is, because it groweth all his life long, even to the length of ten or moe cubits. When it hath laid the egges, it carryeth them to the place where it shall be hatched, for by a natural providence and forelight; it avoideth the waters of *Nilus*, and therefore ever layeth her egges beyond the compasse of her floods: by observation whereof, the people of *Egypt* know every year the inundation of *Nilus* before it happen. And in the measure of this place it is apparent, that this Beast is not indued only with a spirit of reason, but also with a fatidical or propheticall geographical delineation, for so she placeth her egges in the brim or bank of the flood (before the flood cometh) that the water may cover the nest, but not her self that sitteth upon the egges. And the like to this is the building of the Beaver, as we have showed in due place before in the History of four-footed Beasts.

So soon as the young ones are hatched, they instantly fall into the depth of the water, but if they meet with Frog, Snail, or any other such thing fit for their meat, they do presently tear it in pieces, the dam biteh it with her mouth, as it were punishing the pusillanimity thereof, but if it hunt greater things, and be greedy, ravening, industrious and bloody, that she maketh much of, and killing the other, nourisheth and tendereth this above measure: after the example of the wisest men, who love their children in judgement, fore-seeing their industrious inclination, and not in affection, without regard of worth, vertue, or merit. It is said by *Philes*, that after the egge is laid by the Crocodile, many times there is a cruel stinging Scorpion which cometh out thereof, and woundeth the Crocodile that laid it. To conclude, they never prosper but neer the waters, and they live thescore years, or the age of a mans life.

The nature of this beast is to be fearful, ravening, malicious, and treacherous in getting of his prey, the subtilty of whose spirit, is by some attributed to the thinnesse of his bloud, and by other to the hardnesse of his skin and hide. How it dealeth with her young ones, we have shewed already, as it were trying their nature whether they will degenerate or no, and the like things are reported of the Asps, Cancers, and Tortoyfes of Egypt.

From hence came the conceit of *Pietas Crocodili*, the piety of the Crocodile. But as we have said, it is a fearful Serpent, abhorring all manner of noise, especially from the strained voyce of a man, and where he findeth himself valiantly assaulted, there also he is discouraged, and therefore *Marcellinus* saith of him, *Audax Monstrum fugacibus, at ubi audacem senserit timidissimum*: An audacious Monster to them that run away, but most fearful where he findeth resistance.

P. Martyr.

Some have written, that the Crocodile runneth away from a man if he wink with his left eye, and look stedfastly upon him with his right eye, but if this be true, it is not to be attributed to the vertue of the right eye, but only to the rarenesse of sight, which is conspicuous to the Serpent from one eye. The greatest terrour unto Crocodiles, as both *Seneca* and *Pliny* affirm, are the Inhabitants of the Isle *Tentyrus* within *Nilus*; for those people make them run away with their voyces, and many times pursue and take them in snares. Of these people speaketh *Solinus* in this manner: There is a generation of men in the Isle *Tentyrus* within the waters of *Nilus*, which are of a most adverse nature to the Crocodile, dwelling also in the same place. And although their persons or presence be of small stature, yet herein is their courage admired, because at the sudden sight of a Crocodile they are no whit daunted: for one of these dare meet and provoke him to run away. They will also leap into the Rivers and swim after the Crocodile, and meeting with it, without fear cast themselves upon the beasts back, riding on him as upon a Horse. And if the beast lift up his head to bite him, when he gapeth they put into his mouth a wedge, holding it hard at both ends with both their hands, and so as it were with a bridle, lead, or rather drive them captive to the land, where with their noise they so terrifie them, that they make them cast up the bodies which they had swallowed into their bellies: and because of this antipathy in nature, the Crocodiles dare not come neer to this Island.

The like thing we have before in our general discourse of Serpents, shewed to be in the *Indian Psylli* against the greatest Serpents. And *Strabo* also hath recorded, that at what time Crocodiles were brought to *Rome*, these *Tentyrites* followed and drove them. For whom there was a certain great pool or fish-pond assigned or walled about, except one passage for the beast to come out of the water into the Sun-shine: and when the people came to see them, these *Tentyrites* with nets would draw them to the land, and put them back again into the water at their own pleasure. For they so hook them by their eyes, and bottom of their bellies, which are their tenderest parts, that like as Horses broken by their Riders, they yeeld unto them, and forget their strength in the presence of these their Conquerors.

Peter Martyr in his third Book of his *Babylonian Legation*, saith, that from the City *Cair* to the Sea, the Crocodiles are not so hurtful and violent as they are up the River *Nilus* into the land, and against the stream. For as you go further up the River, neer the mountain and hilly places, so shall you finde them more fierce, bloody and unresistible, whereof the Inhabitants gave him many reasons. First, because that part of the River which is betwixt the City *Cair* and the Sea, is very full of all sorts of fishes, whereby the beasts are so filled with devouring of them, that they list not come out of the water on the land to hunt after men or cattel, and therefore they are the lesse hurtful, for even the Lyon and Wolf do cease to kill and devour when their bellies are full. But sometimes the Crocodiles beneath the River, follow the gales or troups of fish up the River, like so many fisher-men, and then the Countrey Fisher-men inclose them in nets, and so destroy them. For there is a very great reward proposed by the law of the Countrey, to him that killeth a Crocodile of any great quantity; and therefore they grow not great, and by reason of their smalnesse are lesse adventurous. For so soon as a great Crocodile is discovered, there is such watch and care taken to interrupt and kill him for hope of the reward, that he cannot long escape alive.

Thirdly, the Crocodiles up the River, towards the Mountains, are more hurtful, because they are pressed with more hunger and famine, and more seldom come within the terror of men, wherefore they forsake the waters, and run up and down to seek preys to satisfie their hunger, which when they meet withall, they devour with an unresistible desire, forced and pressed forward by hunger, which breaketh stone walls. But most commonly when the River *Nilus* is lowest, and sunck down into the channel, then the Crocodiles in the water do grow most hungry, because the fish are gone away with the floods; and then the subtile beast will heal and cover himself over with sand or mud, and so lie the bank of the River, where he knoweth the women come to fetch water, or the cattel to drink, and when he espyeth his advantage, he suddenly taketh the woman by the hand that she taketh up water withall, and draweth her into the River, where he teareth her in pieces and eateth her. In like sort dealeth he with Oxen, Cows, Asses, and other cattel. If hunger force him to the land, and he meet with a Camel, Horse, Asse, or such like beast, then with the force and blows of his tail he breaketh his legs, and so laying him flat on the earth, killeth and eateth him: for so great is the strength of a Crocodiles tail, that it hath been seen that one stroke thereof hath broken all the four legs of a beast at one blow.

There is also another peril by Crocodiles, for it is said that when *Nilus* falleth, and the water waxeth low, the Barks through want of winde, are fain by the Mariners to be tugged up the

the stream with long lines and cords: the subtle Crocodile seeing the same, doth suddenly with his tail smite the same line with such force, that either he breaketh it, or by his forcible violence cumbleth the Mariner down into the water, whom he is ready to receive with open mouth before he can recover. Yea many times by means thereof the Birk it self is tottered and reeleth; that the violent beast taketh a man out of it, or else clean over-turneth it, to the destruction of all that are in it.

Ælianus saith, that among the *Ombita* which are in *Arfinoe*, the Crocodiles are harmlesse, and having several names when they are called, do put their heads out of the water and take meat gently, which meat is the head and garbage of such sacrifices as are brought thither. But in another place he writeth, that among the *Ombita* or *Coptite*, it is not safe for a man, to fetch water from the River, or to wash their feet, or walk on the Rivers side, but with great caution and warinesse. For even those beasts which are most kindly used by men, do rage against their Benefactors, as namely the Crocodile, the *Ichneumon*, the Wilde-cats, and such like. And yet *Plutarch* in his Book *Utrahini*. *Marcellinus*. *malium*, saith, that the Priests, by the custom of meat-giving, have made some of them so tame, that they will suffer their mouths and teeth to be cleansed by men. And it is further said, that during the seven Ceremonial days of the nativity of *Apis*, there is none of them that sheweth any wilde trick or cruel part, but as it were by compact betwixt them and the Priests, they lay aside all cruelty and rage during that time.

And therefore *Cicero* writeth most excellently, saying, *Ægyptiorum morem quis ignoret? quorum imbuta mentes pravitate erroribus, quantum carnis cinam potius subierint, quam libum, aut aspidem, aut Crocodilum violenti*. That is to say, Who is ignorant of the custom of the *Ægyptians*? whose mindes are so seasoned and indued with erroneous wickednesse, that they had rather undergo any torment, then offer violence to an *Ibis*, an *Asp*, or a holy Crocodile. For in divers places, all these, and Cats also, were worshipped by the people, according to the saying of *Juvenal*.

Crocodilon adoratur pariter Ægypti,

— Illa pavet saturam Serpentibus Ibiu.

Which may be Englished thus, *Crocodiles are adored, they are afraid of a full belly of Serpents.*

This part of Egypt Crocodiles adore,

That, the Ibis, fed with Serpents store.

But the reason of divine worship or honour given to the Crocodiles are worth the noting, that the diligent Reader may the better have some taste of that ancient blindness whereby our forefathers were misled and seduced, to forsake the most glorious and ever-blessed principles of Divinity, for arguments of no weight.

First therefore the Idolatrous Priests thought there was some divine power in the Crocodile, because it wanted a tongue, for the Deity or Divine speech hath no need of a voyce to expresse his meaning, according to the saying of the *Greeks*, *Kai di apophon bainoon keleuthan kai dikes, ta thura agrikata diken*: For by a mute and silent way it ascendeth, and bringeth all things mortal to a vocal justice, which speaketh in action though not in voyce, even as all that is in the Crocodile, is action and not voyce.

Secondly, by reason of a certain thin smooth skin coming from the midst of his fore-head, *Calius*. wherewithall it covereth his eyes, so that when it is thought to be blinde, yet it seeth: even so is it with the Divine power, for even then when it is not seen, yet doth it see perfectly all mortal things.

Again, by their egges and nests they usually fore-shew the over-flowing of *Nilus*, to the infinite benefit of their Countrey wherein they live, for thereby the husband-men know when to till their land, and when not, when to sow and plant, and lead forth their flocks, and when not: which benefit is also ascribed to Divinity, and therefore the Crocodile is honoured with divine power.

Again, it layeth threescore egges, and liveth threescore years, which number of threescore, was in ancient time the first dimension of heaven and heavenly things.

Cicero also speaking against this *Ægyptian* vanity, saith, that they never consecrated a beast for a God, but for some apparent utility, as the *Ibis* for devouring of Serpents, and the Crocodile for being a terror to theeves; and therefore the *Arabian* and *Lybian* theeves durst not come over the River *Nilus* to rob the *Ægyptians* for fear of the Crocodiles.

There is a tale in *Diodorus Siculus* of the original of a Crocodiles divine worship, which although it cannot be but fabulous, yet I have thought good to insert it in this place, to shew the vanity of superstition and Idolatry. There was a King of *Egypt* called *Minus*, or as *Herodotus* calleth him *Menes*, who following his Hounds in hunting into a certain marsh of *Meris*, fell in with his Horse, and there stuck fast, none of his followers daring to come after him to release him, so that he had there perished, had not a Crocodile come and taken him up upon his back, and set him safe upon the dry land. For which miracle, the said King built there a City, and caused a Crocodile to be worshipped, which was called *Sychus* by all the Inhabitants of that City, and also gave all the said Marsh of *Meris*, for the sustenance of the same. It was nourished with bread, flesh, and Wine, Cakes, sod flesh, and sweet new Wine: so that when any man came to the Lake wherein it was kept, the Priests would presently call the beast out of the water, and being come to the land, one of them opened his mouth, and the other put in meat, delicacies, and Wine.

N n n 2 This

Hierodotus.

This Crocodile of *Maris*, is the same that is called *Arfinoe*, and like to that at *Thebes*, about which they did hang jewels of gold, silver, and jems of ear-rings, bracelets, and such other things of price. When it dyed, they did season the body thereof with salt, and buried it in the holy Tombes or burying Pors. The same also are called *Ombite*, I mean the people of that *Egypt* which dwell in *Arfinoe*, and for the love of the Crocodiles, they abandon all manner of Hawks their enemies, in so much that many times they take them and hang them up in publique upon gallows for that purpose erected. And further, they keep certain days of triumphs like the *Olympiades*, and games of honour, and so far they were blinded with that superstition, that they thought themselves exceedingly blessed if they lost their children by them, and thought themselves much honoured, if they saw them with their eyes fetched out of the streets and playing places by Crocodiles.

Again, all the *Egyptians* hold opinion, that the Crocodile is a Divinator, which they prove by the testimony of *Ptolomeus*, who calling one of the sacred Crocodiles, which was the oldest and best of all, he would not answer him, and afterward offering him meat, he also refused it, whereat many wondered, and some of the Priests said, it was some prognostical sign either of the Kings death or his own, and so it fell out shortly after, for the same Crocodile dyed. As though a Swine might not as well be accounted divine, seeing it also refuseth all meat and provocation at the time of their sickness, and before death.

There is a City in *Egypt* called *Apollinopolis*, the City of *Apollo*, where the Inhabitants abhor and condemn the worship of Crocodiles, for when they take any of them they hang them up and beat them to death, notwithstanding their tears and cryings, and afterwards they eat them: but the reason of their hatred is, because *Typhon* their ancient enemy was clothed with a Crocodiles shape. Others also say, the reason of their hatred is, because a Crocodile took away and devoured the daughter of *Pjammutes*, and therefore they enjoyed all their posterity to hate Crocodiles.

Orus.

To conclude this discourse of Crocodiles inclination, even the *Egyptians* themselves account a Crocodile a savage and cruel murdering Beast, as may appear by their Hieroglyphicks, for when they will decipher a mad man, they picture a Crocodile, who being put from his desired prey by forcible resistance, he presently rageth against himself. And they are often taught by lamentable experience, what fraud and malice to mankind liveth in these Beasts, for they cover themselves under willows and green hollow banks, till some people come to the Waters side to draw and fetch water, and then suddenly, or ever they be aware, they are taken and drawn into the water. And also for this purpose, because he knoweth that he is not able to over-take a man in his course or chase, he taketh a great deal of water in his mouth, and casteth it in the path-ways, so that when they endeavour to run from the Crocodile, they fall down in the slippery path, and are over-taken and destroyed by him. The common proverb also, *Crocodili lachryma*, the Crocodiles tears, justifieth the treacherous nature of this Beast, for there are not many brute Beasts that can weep, but such is the nature of the Crocodile, that to get a man within his danger, he will sob, sigh, and weep, as though he were in extremity, but suddenly he destroyeth him. Others say, that the Crocodile weepeth after he hath devoured a man. Howsoever it be, it noteth the wretched nature of hypocritical hearts, which before-hand will with fained tears endeavour to do mischief, or else after they have done it be outwardly sorry, as *Judas* was for the betraying of Christ, before he went and hanged himself.

Ælianus.

The males of this kinde do love their females above all measure, yea even to jealousy, as may appear by this one History of *P. Martyr*. About the time that he was in those countries, there were certain Mariners which saw two Crocodiles together in carnal copulation upon the sands neer the River, from which the water was lately fallen into a certain Island of *Nilus*, the greedy Mariners forsook their ship, and betook themselves to a long boat, and with great shouting, hollowing and crying, made towards them in very courageous manner: the male at the first assault fell amazed, and greatly terrified ran away as fast as he could into the waters, leaving his female lying upon her back, (for when they ingender, the male turneth her upon her back, for by reason of the shortness of her legs she cannot do it herself) so the Mariners finding her upon her back and not able to turn over her self, they easily slew her, and took her away with them. Soon after the male returned to the place to seek his female, but not finding her, and perceiving blood upon the sand, conjectured truly that she was slain, wherefore he presently cast himself into the River of *Nilus* again, and in his rage swam stoutly against the stream untill he over-took the ship wherein his dead female was, which he presently set upon, lifting up himself and catching hold on the sides, would certainly have entered the same, had not the Mariners with all their force battered his head and hands with clubs and staves, untill he was wearied and forced to give over his enterprise, and so with great sighing and sobbing departed from them. By which relation it is most clear what natural affection they bear one to another, and how they choose out their fellows, as it were for wives and husbands for procreation.

And it is no wonder if they make much of one another, for besides themselves they have few friends in the world, except the Bird *Trochilus* and Swine, of whom I can say little, except this that followeth. As for the little Bird *Trochilus*, it affecteth and followeth them for the benefit of his own belly; for while the Crocodile greedily eateth, there sticketh fast in his teeth some part of his prey, which troubleth him very much, and many times ingendereth Worms, then the Beast to help himself taketh land, and lyeth gaping against the Sun-beams westward, the Bird perceiving it,

flyeth

flyeth to the jaws of the Beast, and there first with a kinde of tickling-scratching, procureth (as it were) licence of the Crocodile to pull forth the Worms, and so eateth them all out, and clenseth the teeth throughly, for which cause the Beast is content to permit the Bird to go into his mouth. But when all is clenfed, the ingrateful Crocodile endeavoureth suddenly to shut his chaps together upon the Bird, and to devour his friend, like a cursed wretch which maketh no reckoning of friendship, but the turn served, requiteth good with evill. But Nature hath armed this little Bird with sharp thorns upon her head, so that while the Crocodile endeavoureth to shut his chaps and close his mouth upon it, those sharp thorns prick him into his palate, so that full sore against his unkinde nature, he letteth her flye safe away. But whereas there be many kindes of *Trochili*, which are greedy of these Worms or clenfings of the Crocodiles, some of them which have not thorns on their heads pay for it, for there being not offence to let the closing of the Crocodiles mouth, they must needs be devoured: and therefore this enforced amity betwixt him and the Crocodile, is only to be understood of the *Cledororynchus*, as it is called by *Hermolaus*.

Aristotle.
Marcellinus.
Ælianus.
Leo Afric.

There be some that affirm, that he destroyeth all without exception that thus come into his mouth, and other some say he destroyeth none, but when he feeleth his mouth sufficiently clenfed, he waggeth his upper chap, as it were to give warning of avoidance, and in favour of the good turn, to let the bird flie away at his own pleasure. Howbeit, the other and the former narration is more likely to be true, and more constantly affirmed by all good Authors except *Plutarch*. And *Leo Afric.* saith, that it was the constant and confident report of all *Africa*, that the Crocodile devoureth all for their love and kindenesse, except the *Cledororynchi*, which they cannot, by reason of the thorns upon their head.

Plutarch.

That there is an amity and natural concord betwixt Swine and Crocodiles is also gathered, because they only among all other living four-footed Beasts, do without danger dwell, feed and inhabit upon the banks of *Nilus*, even in the midst of Crocodiles; and therefore it is probable that they are friends in nature. But oh how small a sum of friends hath this Beast, and how unworthy of love among all creatures, that never in nature hath but two, in heaven or earth, air or water, that will adventure to come neer it, and one of these also, which is the best deserving, it devoureth and destroyeth if it get it within his danger.

Calpagninus.

Seeing the friends of it are so few, the enemies of it must needs be many, and therefore require a more large catalogue or story. In the first rank whereof cometh, (as worthy the first place) the *Ichneumon*, or *Pharaohs-mouse*, who rageth against their Egges and their persons, for it is certain that it hunteth with all sagacity of sense to finde out their nests, and having found them, it spoileth, scattereth, breaketh and emptieth all their egges. They also watch the old ones asleep, and finding their mouths open against the beams of the Sun, suddenly enter into them, and being small, creep down their vast and large throats before they beware, and then putting the Crocodile to exquisite and intolerable torment, by eating their guts asunder, and so their soft bellies, while the Crocodile tumbleth to and fro sighing and weeping, now in the depth of water, now on the land, never resting till strength of nature faileth. For the incessant gnawing of the *Ichneumon* so provoketh her to seek her rest in the unrest of every part, herb, element, throws, throbs, rowlings, tossings, mournings, but all in vain, for the enemy within her breatheth through her breath, and sporteth her self in the consumption of those vital parts, which waste and wear away by yeelding to unpacificable teeth, one after other, till she that crept in by stealth at the mouth, like a puny thief, come out at the belly like a Conqueror, through a passage opened by her own labour and industry, as we have also shewed at large in the story of *Ichneumon*. But whether it be true or no, that the *Trochilus* doth awake the sleeping Crocodile, when he seeth the *Ichneumon* lie in wait to enter into her, I leave it to the credit of *Strabo* the reporter, and to the discretion of the indifferent Reader.

Diod. Sicul.

Strabo.

Monkeys are also the haters of Crocodiles, as is shewed in the story, and lie in wait to discover, and if it were in their power to destroy them. The Scorpion also and the Crocodile are enemies one to the other, and therefore when the *Egyptians* will describe the combat of two notable enemies, they paint a Crocodile and a Scorpion fighting together, for ever one of them killeth another: but if they will decipher a speedy overthrow to ones enemy, then they picture a Crocodile; if a slow and slack victory, they picture a Scorpion. And as we have already shewed out of *Philes*, that out of the egges of Crocodiles, many times come Scorpions, which devour and destroy them that lay them.

Fishes also in their kinde are enemies to Crocodiles, the first place whereof belongeth to the most noble Dolphin. Of these Dolphins it is thought there be two kindes, one bred in *Nilus*, the other forrain and coming out of the Sea, both of them professed enemies to the Crocodile: for the first, it hath upon the back of it sharp thorny prickles or fins, as sharp as any spears point, which are well known to the fish that beareth them, as her armour and weapons against all adversaries. In the trust and confidence of these prickles, the Dolphin will allure and draw out the Crocodile from his den or lodging place, into the depth of the River, and there fight with him hand to hand. For the Dolphin as it knoweth his own armour and defence, like other Beasts and Fishes, so doth it know the weakest parts of his adversary, and where his advantage of wounding lyeth. Now, *Strabo*, as we have said already, the belly of the Crocodile is weak, having but a thin skin, and penetrable with small force, wherefore when the Dolphin hath the Crocodile in the midst of the deep waters, like one afraid of the fight, underneath him he goeth, and with his sharp fins or prickles

Strabo.
Solinus.

prickles on his back, giveth his weak and tender belly mortal wounds, whereby his vital spirits, with his guts and entrails, are quickly evacuated. The other Dolphins of the Sea being greater, are likewise armed with these prickles, and of purpose come out of the Sea into *Nilus* to bid battel to the Crocodiles.

Seneca.

When *Bibillus* (a worthy Roman) was Governor of *Egypt*, he affirmed that on a season the Dolphins and the Crocodiles met in the mouth of *Nilus*, and bade battel the one to the other, as it were for the sovereignty of the waters, and after that sharp combat, it was seen how the Dolphins by diving in the waters, did avoid the biting of the Crocodiles, and the Crocodiles dyed by strokes received from the Dolphins upon their bellies. And when many of them were by this means as it were cut asunder, the residue betook themselves to flight, and ran away, giving way to the Dolphins. The Crocodiles do also fear to meddle with the Sea-hog, or Hog-fish, because of his bristles all about his head, which hurt him also when he cometh nigh him: or rather I suppose, as it is friend to the Swine of the earth, and holdeth with them a sympathy in nature, so it is unto the Swine of the water, and forbeareth one in the Sea, as it doth the other on the land.

Strabo.

There is likewise a certain wilde Ox or Bugil among the *Parthians*, which is an enemy to the Crocodile, for as *Albertus* writeth, if he finde or meet with a Crocodile out of the water, he is not only not afraid of him, but taketh heart and setteth upon him, and with the weight and violent agitation of his body, treadeth him all to pieces: and no marvel, for all Beasts are enemies to the Crocodiles on the land, even as the Crocodile lyeth in wait to destroy all them in the water. Hawks are also enemies to Crocodiles, and especially the *Ibis* bird, so that if but a feather of the *Ibis* come upon the Crocodile by chance, or by direction of a mans hand, it maketh it immoveable and cannot stir. For which cause, when the *Egyptians* will write or decipher a ravening, greedy, idle-fellow, they paint a Crocodile, having an *Ibis* feather sticking in his head. And thus much for the enmity betwixt the Crocodiles and other living creatures.

Orus.

Ælianus.

It hath been seldom seen that Crocodiles were taken, yet it is said that men hunt them in the waters, for *Pliny* saith, that there is an assured perswasion, that with the gal & fat of a Water-adder, men are wonderfully holpen, and as it were armed against Crocodiles, and by it enabled to take and destroy them, especially when they carry also about them the herb *Potamegeton*. There is also a kinde of thorny wilde Bean growing in *Egypt*, which hath many sharp prickles upon the stalks, this is a great terrour to the Crocodile, for he is in great dread of his eyes, which are very tender and easie to be wounded. Therefore he avoideth their sight, being more unwilling to adventure upon a man that beareth them, or one of them, then he is to adventure upon a man in compleat Armour; and therefore all the people plant great store of these, and also bear them in their hands when they travail.

Crescenti.

There be many who in the hunting and prosecuting of these Crocodiles, do neither give themselves to run away from them, nor once to turn aside out of their common path or road, but in a foolish hardinesse, give themselves to combat with the Beast, when they might very well avoid the danger, but many times it hapneth that they pay dearly for their rashnesse, and repent too late the too much reputation of their own manhood: for whiles with their spears and sharp weapons they think to pierce his sides, they are deceived, for there is no part of him penetrable except his belly, and that he keepeth safe enough from his enemies, blunting upon his scales (no lesse hard then plates of Iron) all the violence of their blows and sharpnesse of weapons, but clubs, beetles, and such like weapons are more irksome to him, when they be set on with strength, battering the scales to his body, and giving him such knocks as doth dismay and astonish him. Indeed there is no great use of the taking of this Serpent, nor profit of merchandize cometh thereby, his skin and flesh yeelding no great respect in the world.

Diodorus.

In ancient time they took them with hooks baited with flesh, or else inclosed them with nets as they do fishes, and now and then with a strong Iron instrument cast out a boat down in the water upon the head of the Crocodile. And among all other there is this one worthy to be related. The Hunter would take off the skin from a Swines back, and therewithal cover his hook, whereby he allured and inticed the Serpent into the midst of the River, and there making it fast, he went afterward to the next watering place, and there holding another Hog, did beat and smite him, till he cryed ardently, with which voyce or cry, the Crocodile being moved, goeth presently to the bait and swalloweth it up, and maketh after the noise: at last, coming to the land, the Hunter with valiant courage and diligence, casteth mud and dirt into his eyes, and so blindeth him that he may oppresse and kill him with ease.

Herodotus.

Leo Afric. relateth also this means or way to take Crocodiles: There be many Trees planted upon the banks of *Nilus*, unto one of these there is a long and strong rope tyed, and at the end of the same there is fastened a hook of a cubit long, and a finger in quantity: unto this hook for a bait is tyed a Ram or a Goat, which being set close to the River, and tormented with the hook upon which it is fastened, cryeth out amain, by hearing of whose voyce, the hunger-greedy Crocodile is raised out of his den, and invited as he thinketh to a rich prey, so he cometh (although it self of a trecherous nature, yet suspecteth not any other) and swalloweth the bait, in which he findeth a hook not to be digested. Then away he striveth to go, but the strength of the rope stayeth his journey, for as fast as the bait was to the rope and hook, so fast is he also ensnared and tyed unto it, which while he waveth and straineth to unloose and break, he wearyeth himself in vain. And to the intent that all his strength may be spent against the tree and the rope, the Hunters are at one end thereof, and cause

cause it to be cast to and fro, pulling it in, and now letting it go again, now terrifying the Beast with one noise and fear, and anon with another, so long as they perceive in him any spirit of moving or resistance: so being quieted, to him they come, and with clubs, spears, beetles, staves, and such manner of instruments, pierce through the most tenderest parts of his body and so destroy him.

Peter Martyr hath also other means of taking Crocodiles. Their nature is, that when they goe to the land to forrage and seek after a prey, they cannot return back again but by the same footsteps of their own which they left imprinted in the sand: whereupon, when the Countrey people perceive these footsteps, instantly with all the hast they can make, they come with spades and mattocks and make a great ditch, and with boughs cover the same, so as the Serpent may not espy it, and upon the boughs they also again lay sand to avoid all occasion of deceit or suspicion of fraud at his return: then when all things are thus prepared, they hunt the Crocodile by the foot untill they finde him, then with noises of bells, pans, kettels, and such like things, they terrifie and make him return as fast as fear can make him run towards the waters again, and they follow him as neer as they can, untill he falleth into the ditch, where they come all about him, and kill him with such instruments or weapons as they have prepared for him, and so being slain, they carry him to the great City Cair, where for their reward they receive ten pieces of gold, which amounteth to the value of ten nobles of our English coin.

There have been some brought into that City alive, as *P. Martyr* affirmeth, whereof one was as much as two Oxen and two Camels could bear and draw, and at the same time there was one taken by this devise before expressed, which had entered into a Village in *Saetum* neer *Nilus*, and swallowed up alive three young Infants sleeping in one Cradle, the said Infants scarcely dead were taken again out of his belly, and soon after when no more tokens of life appeared, they were all three buried in a better and more proper grave of the earth. Then also there was another slain, and out of his belly was taken a whole Ram not digested, nor any part of him consumed, and the hand of a woman which was bitten or torn off from her body above the wrist, for there was upon the same a Bracelet of Brasse.

We do read that Crocodiles have been taken and brought alive to *Rome*. The first that ever brought them thither, was *Marcus Scaurus*, who in the games of his ædility, brought five forth and shewed them to the people in a great pond of water, (which he had provided only for that time) and afterward *Helioabalus* and *Antoninus Pius*. The *Indians* have a kinde of Crocodile in *Ganges*, which hath a horn growing out of his nose like a *Rhinocerot*: unto this Beast they cast condemned men to be devoured, for in all their executions, they want not the help of men, seeing they are provided of Beasts to do the office of Hang-men.

Aurelius Festus writeth, that *Firmus* a Tyrant of *Egypt*, being condemned to *Nilus* to be devoured by Crocodiles, beforehand bought a great quantity of the fat of Crocodiles, and so stripping himself stark naked, laid the same over his body, so he went among the Crocodiles and escaped death: for this savage Beast being deceived with the savour of its own nature, spared the man that had but so cunningly carryed it. And this is a wonderful work of Almighty GOD, that so ordereth his actions in the nature of this Beast, that he beguileth the cruel nature of the living, by the tast and savour of the dead: howbeit some think that the water Crocodile is daunted with the savour of the fat from the land Crocodile, and the land Crocodile by the water again.

And some again say, that all venomous Beasts run away from the savour of the fat thereof; and therefore no marvail if it also be afraid, being venomous as well as any other. Wherefore the saying of *Firmus* was not to be attributed to any indulgence of the Crocodile toward their own kinde, but rather to a deadly antipathy reflecting themselves upon themselves, though not in shape and figure as the Cockatrice, yet in sense, savour, and rancknesse of their pestiferous humor.

The use of Crocodiles taken, is for their skin, flesh, caul and medicine arising out of it. Their skin as it is exceeding hard upon their backs while they are alive, so is it also when they are dead, for with that the common people make them better armour then coats of Mail, against Darts, Spear, or Shield, as is well known in all *Egypt* at this day. For the flesh of Crocodiles, it is also eaten among those people that do not worship it: as namely the people about *Elephantina Apollinopolis*. Notwithstanding by the Law of God, *Levit. 11.* it is accounted an unclean Beast, yet the tast thereof being found pleasant, and the relish good, without respect of GOD or health, the common people make use thereof.

The medicines arising out of it are also many. The first place belongeth to the caul, which hath moe benefits or vertues in it then can be expressed. The blood of a Crocodile is held profitable for many things, and among other it is thought to cure the bitings of any Serpent. Also by anointing the eyes, it cureth both the dregs or spots of blood in them, and also restoreth soundnesse and clearnesse to the sight, taking away all dulnesse or deadnesse from the eyes. And it is said, that if a man take the liquor which cometh from a piece of a Crocodile fryed, and anoint therewithall his wound or harmed part, that then he shall be presently rid of all pain and torment. The skin both of the land and water Crocodile dryed into powder, and the same powder with Vinegar or Oyl, laid upon a part or member of the body, to be seared, cut off, or lanced, taketh away all sense and feeling of pain from the instrument in the action.

Pliny.
Capitolinus.
Lampridius.

Vadianus.

Aetius.

P. Martyr.

Herodotus.

Dioscorides.

Pliny.

Arnoldus.

Aetius.
Rhazes.

All the *Egyptians* do with the fat or sewer of a Crocodile anoint all them that be sick of Feavers; for it hath the same operation which the fat of a Sea-dog or Dog-fish hath, and if those parts of men and beasts which are hurt or wounded with Crocodiles teeth, be anointed with this fat, it also cureth them. Being concocted with water and Vinegar, and so rowled up and down in the mouth, it cureth the tooth-ach: and also it is outwardly applyed against the biting of Flies, Spiders, Worms, and such like, for this cause, as also because it is thought to cure Wens, bunches in the flesh, and old wounds. It is sold dear, and held pretious in *Alcair*. *Scaliger* writeth, that it cureth the Gangren. The canine teeth which are hollow, filled with Frankincense, and tyed to a man or woman which hath the Tooth-ach, cureth them, if the party know not of the carrying them about: And so they write, that if the little stones which are in their belly be taken forth and so used, they work the same effect against Feavers. The dung is profitable against the falling off of the hair, and many such other things.

Aetius.

The biting of a Crocodile is very sharp, deep, and deadly, so that wheresoever he layeth his teeth, seldom or never followeth any cure. But yet the counsel of Physitians is, that so soon as the patient is wounded, he must be brought into a close chamber where are no windows, and there be kept without change of air, or admission of light, for the poyson of the Crocodile worketh by cold air and light; and therefore by the want of both is to be cured. But for remedy (if any be) they prescribe the same which is given for the cure of the biting of a mad Dog, or (as *Avicen*) the biting of a Dog not mad. But most proper is the dung of a man, the Fish *Garum* and *Mysy* pounded together, and so applyed, or else the broth of salt sod flesh, and such other things as are vulgarly known to every Physitian: and therefore seeing we live in a countrey far from the annoyance of this Serpent, I shall not need to blot any paper to expresse the cure of this poyson.

Arnoldus.

The Crocodile of *Nilus* only liveth on land and water, all other are contented with one element: the picture of the Crocodile was wont to be stamped upon coin, and the skin hanged up in many famous Cities of the world, for the admiration of the people, and there is one at this day at *Paris* in *France*.

Belonius.

of the Arabian or Egyptian LAND CROCODILE.



The figure of this Crocodile sheweth evidently the difference betwixt him and the other of *Nilus*; and beside it is neither so tall or long as is the other, the which proportioned Beast is only particular to *Egypt* and *Arabia*, and some because of his scaly head, legs, articles, and claws, have observed another difference in it from the former: yet in his nature, manner of living and preying upon other cattel, it differeth not from that of the water. The tail of this Crocodile is very sharp, and standeth up like the edges of wedges in bunches above the ground, wherewithal when he hath mounted himself up upon the back of a Beast, he beateth and striketh the beast most cruelly, to make him go with his Rider to the place of his most fit execution, free from all rescue of his Heard-man or Pastor, or annoyance of passengers, where in most cruel and savage manner he tear-eth the limbs and parts one from another till he be devoured. The Apothecaries of *Italy* have this Beast in their shops to be seen, and they call it *Caudiverbera*, that is, a Tail-bearer, for the reason aforesaid. And thus there being nothing in this Beasts nature different from the former, besides his figure, and that which I have already expressed, I will not trouble the Reader with any more Narration about it.

of the LAND CROCODILE of Bresilia.



The figure and proportion of this Serpent was altogether unknown in this part of the world, till of late our discoverers and Navigators brought one of them out of Bresilia. The length of it is about a fathom, and the breadth as much as ten fingers broad: the fore-legs have ten claws, five upon a foot, the hinder-legs eight, and both before and behinde they are of equal length. The tail exceeding long, far exceeding the quantity and proportion of his body, being marked all over with certain white and yellowish spots. The skin all covered with an equal, smooth and fine coloured scale, which in the midst of the belly are white, and greater then in other parts. It can abide no water, for a little poured into the mouth killed it, and after it had been two or three days dead, being brought to the fire, it moved and stirred again faintly, even as things do that lye a dying. It is not venomous nor hurtful to eat, and therefore is digged out of the cave by any body safely without danger.

of the CROCODILE of the Earth called Scincus, & Scink.



There have been some that have reckoned Scinks and Lizards among Worms, but as the Greek words *Erpeix*, and *Scolex*, differ in most apparent dialect, and signification, and therefore it is an opinion not worth the confuting, for there are no Worms of this quantity. But for the better explication of the nature of this Beast, because some have taken it for one kinde, and some for another: some for a Crocodile, and others for a Beast like a Crocodile; we are to know that there are three kindes of Crocodiles: the first is a water Beast or Serpent, and vulgarly termed a Crocodile, the second is a Scink or a Crocodile of the earth, which is in all parts like that of the water, except in his colour and thicknesse of his skin: the third kinde of Crocodile is unknown to us at this day, yet *Pliny* and others make mention of it, and describe it to be a beast having his scales like a Gorgon, growing or turning to his head from the tail, and not as others do, from the head to the tail.

The *Grecians* call this Beast *Skinkos*, and some unlearned Apothecaries *Stincus*, and *Myrepsus* *Sikk*. It is also called *Kikeros*, and the *Hebrew* *Koach*, doth more properly signifie this Beast, then any other Crocodile or Chamæleon, or Lizard. Some of the *Hebrews* do expound *Zab* for a Scink; and from thence the *Chaldees* and the *Arabians* have their *Dad* and *Aldab*, turning *Z* into *D*: So we read *Guaril* and *Adhaya*, for a Scink or Crocodile of the earth: *Alarbian* is also for the same Serpent among the *Arabians*, *Balecola*, and *Ballecara*, *Schanchur*, and *Aschanchur*, and *Askincor*, and *Serantum*, and *Nudalep*, and *Nudalepi*, are all of them Synonymæ, or rather corrupted words for this Crocodile of the earth. But there are at this day certain *Pseudoscinks* set out to be seen and sold by Apothecaries, that are nothing else but a kinde of water Lizard: but the true difference is betwixt them, that these water Lizards are venomous, but this is not, and neither living in the Northern parts of the world, nor yet in the water: and so much shall suffice for the name and first entrance into this Serpents History.

They

They are brought out of the Eastern Countries, or out of Egypt: yet the Monks of *Meſuen* affirm, that they had ſeen Scinks or Crocodiles of the earth about *Rome*. *Sylvaticus* and *Platearius* in *Apulia*. But howſoever their affections may lead them to conjecture of this Serpent, I rather believe that it is an *African* beaſt, and ſeldom found in *Aſia* or *Europe*. They love the banks of *Nilus*, although they dare not enter the water, and for this cauſe ſome have thought (but untruly) that when the Crocodile layeth her egges in the water, the young is there alſo engendered and hatched, and is a Crocodile of the water, but if they lay their egges on the dry land, from thence cometh the Scink or Crocodile of the earth. This folly is evidently refuted, becauſe that they never lay eggs in the but all upon the dry land. They are found (as I have ſaid before) in *Egypt*, and alſo in *Africa*, and among the *Lydians* of *Mauritania*, otherwiſe called *Lodya*, or rather *Lybia*, among the Paſtoral or Plow-men *Africans*; among the *Arabians*, and neer the Red-ſea, for all thoſe at this day ſold at *Venice*, are brought from thoſe parts. The greateſt in the world are in *India*, (as *Cardan* teacheth) who are in all things like Lizards, ſaving in their excrements, which ſmell or ſavour more ſtrongly, and generally the difference of their quantity ariſeth from the countrey which they inhabit, for in the hotter and moiſter countrey they are greater, in the hotter dryer Region they are ſmaller, and generally they exceed not two or three cubits in length, with an anſwerable proportionable body, which is thus deſcribed.

There be certain croſſe lines which come along the back one by one, ſomewhat white, and of a dusky colour, and thoſe that be dusky have alſo in them ſome white ſpots. The upper part of the neck is very dusky, the head and the tail are more white, the feet and all the neather part of the breaſt and belly are white, with appearance upon them of ſome ſcales, or rather the ſkin figured in the proportion of ſcales: upon either feet they have five diſtinct fingers or claws, the length of their legs is a thumb and a half: that is, three inches, the tail two fingers long, the body ſix ſo that the whole length from the head to the tip of the tail, (which is firſt thick, and then very ſmall at the end) is about eight fingers. When they have taken them they bowel them, and fill their bodies with Sugar, and Silk of Wooll, and ſo they ſell them for a reaſonable price. That which I have written of their length of eight fingers, is not ſo to be underſtood, as though they never exceeded or came ſhort of that proportion: for ſometimes they are brought into theſe parts of the World twenty or four and twenty fingers long, ſometimes again not above five or ſix fingers long.

Aristotle.

When they lay their Egges, they commit them to the earth, even as the Crocodiles of the water do. They live upon the moſt odoriferous flowers, and therefore is his fleſh ſo ſweet, and his dung or excrements odoriferous. They are enemies to Bees, and live much about Hives, inſomuch as ſome have thought they did lay their Egges in Hives, and there hatch their young ones: But the occaſion of this error was, that they ſaw young ones brought by their parents into ſome Hive, to feed upon the labouring Bee. For the compaſſing of their deſire they make meal of any tree, which they have ground in the Mill of their own mouths, and that they mix with black *Hellebore* juyce, or with the liquor of *Mallows*, this meal ſo tempered they lay before the Hives, whereof aſſoon as the Bees taſt, they die, and then cometh the Crocodile with her young ones, and lick them up; and beſide Bees, I do not read they are hurtful to any. The *Indians* have a little Beaſt about the quantity of a little Dog, which they call *Phattage*, very like to a Scink or Crocodile of the earth, having ſharp ſcales, as cutting as a ſaw.

Ælianus.

Rhazes.

There is ſome hurt by this beaſt unto men, for which cauſe I may juſtly reckon it among the venomous, for if it chance to bite any man, if the wounded man falleth into a Fever before he make water, he dyeth for it, but if he firſt make water, the beaſt dyeth and the man eſcapeth.

It is thought that it containeth a kinde of natural magick, witch-craft, or ſorcery; and therefore they ſay it hath a ſtupifying power, changing the minde from love to hatred, and from hatred to love again. The powder of this Serpent drunk in Wine, if it ſtir venereous luſt, it hurteth the nerves and ſinews. There be certain magical deviſes raiſed out of this Serpent which are not worth the writing, as not having in them any dram of wit, learning, or truth; and therefore I will not trouble the Reader with them, but follow on the concluſion of this Crocodiles ſtory in the Narration of the medicinal vertues, which are far moe and more operative then thoſe in the former Crocodile, for I think Almighty GOD bleſſeth meekneſſe and innocency with exceſſe of grace in men and beaſts, as may be ſeen in theſe two kindes of Crocodiles, the dung and excrement of the one, being more worth then the body of the other, through harmleſſe innocency.

The body of this Serpent to be dried, after it hath lyen long in Salt, and to be preſerved in Noſewort, as *Kuellius* and *Marcellus* write: (but truth is, there is no need of Salt where Noſewort is applied, becauſe the Acrimony of this hearb doth eaſily dry up the moiſture of this beaſt, keeping Worms from breeding in it.) With the powder thus prepared, venereous men ſtir up their luſts. Mithridate is called *Diaſcenn*, becauſe it is compounded of the Scink or Crocodile of the earth, and it containeth in it a moſt noble Antidote againſt all poyſons. *Galen* had an Antidote againſt Scorpions, which among other things containeth in it the fleſh of a Crocodile of the earth, wherewithall he cured all them that had been ſtung with Scorpions in *Lybia*. It is alſo good againſt the bitings of mad beaſts, and pleuriſies; againſt poyſoned Honey, or the crudity and loathing that cometh in the ſtomack by eating of ſound Honey: It is profitable againſt empoyſoned Arrows or Darts, being taken immediately before or after the wound, as *Apeller* hath obſerved.

Serapio did make a medicine compounded of the dung of this Crocodile, and applyed the same against the Falling-sicknesse. Of the body of this Scink, except the head and feet being sod or roasted, and eaten by them that have the *Sciatica*, and old cough (especially children,) or the pain of the loins, giveth them much ease. They are also mixed with medicines against the pain of the feet, as *Galen* did for *Amarantus* the Grammarian. They are also good in medicine against the coldnesse of the sinews. This beast is very hot, and therefore increaseth the seed of man, and provoketh lust; and for this purpose the greatest and fattest, and such a one as is taken in the Spring time, when they burn in lust for copulation, is preferred. But this is not to be meant of the fleshy parts, but only of those parts that are about the reins, if a man drink thereof the weight of a groat in Wine afterwards, for the alaying of the heat thereof, the Physicians do prescribe a decoction of Lentils with Honey, and the seed of Lettice drunk in Water. The snout of this Crocodile with the feet drunk in white Wine, hath the same operation: but we have shewed already, that these parts are to be cut off and thrown away, because if there be any venom in the beast it lyeth in them.

A perfume being made of the body and intrails of this Crocodile under the womb of a woman labouring with childe, is thought to yeeld much help, for her safe, speedy, and easie travail, or flocks of Wool perfumed therewith, and laid to her belly. But it is the part of good Physicians to be wary in giving of medicines for stirring up of lust in any, except in married persons, and then also when they are young, to procure a lawful issue and posterity into the world: otherwise they shall both decay the body, for all violent helps of carnal copulation, do in the end prove detriments to nature, if they continue any time, and also they are hurtful to the Soul, when not only the unnatural desire of lust, but also the intemperate pleasure of sin is increased thereby; and that is a miserable cure, which killeth the Soul to help one part of the body. Besides all kindes of medicines for this purpose, (amongst which this Crocodile is the chief) have their peculiar venom, and when they are ministred, either they have no effect at all through age or overmuch impotency, or else they work too violently, which is most dangerous, or some one hurt or other followeth the poyson: and so I will leave the prosecution of this part.

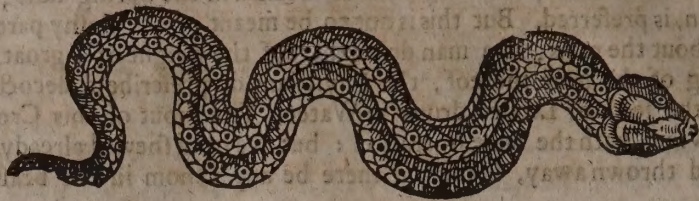
The dust of the skin of this Crocodile being anointed with Vinegar or Oyl upon any part or member which is to be cut off, taketh away the sence of pain in the time of execution. The bloud is good for the eyes, and taketh away the filthy skin of the body, with the spots and burls in the face, restoring the first, true, native, and lively colour. The fat taketh away the pain in the reins, and causeth a distillation of the seed of man, yet this fat touching the hair of a man, maketh it to fall off; and a man anointed herewith, is safe from the annoyance of Crocodiles, although they play with him. It also cureth the bitings of Crocodiles; the instillation of this Crocodile, folded up in the Wooll of a black Sheep of the first birth, and wherein is no other colour, hath power to drive a quartane Ague. And *Rhasis* saith, that it being hung over the head of a woman in travail, keepeth her from delivery. In the gall of this Serpent there is a power against the falling off of the hair, especially if the medicine be made of the roots of Beets to neese withall; and besides, the eyes being anointed therewith, and with Honey, there is nothing more profitable against suffusions. The stones and reins have power to provoke generation; and *Aetius* prescribeth an Antidote to be made of the tail of this beast, against the Gout.

Great is the vertue of the dung or excrement of this Serpent, if the same could be easily found, but while it is sought for, it loseth the vertue. It is called *Grocodillia*, and is profitable to give a good colour to womens faces, that is the best which is whitest, short, and not heavy, feeling like leaven betwixt the fingers, that is, smelling somewhat sharp like leaven.

It is adulterated with meal, chalk, white-earth, or painting, but it is discerned by the heaviness. The reason of the vertue of this is, because it feedeth upon the sweetest and best smelling herbs, whereby it cometh to passe, that it doth not only smell fragrantly, but also contain in it many excellent vertues. First therefore it is good for the comeliness of the face, to give colour to it, according to the saying of *Horace*: *Colorque stercore fucatus Crocodili*: A colour in-grained with the dung of a Crocodile; and for this cause also is the verse of *Ovid*, *Nigrior ad Pharii confuge pisces opem*: That is, The black Woman goeth to crave help of the Fish *Pharius*, to become more beautiful; for by the fish *Pharius* is understood a Crocodile. As some think, eight grains of this dung, or rather the weight of eight groats, with half so much Mustard-seed and Vinegar, cureth the falling off of the hair. *Arnoldus* doth prescribe a composition of the dung and Cantharides, for the regenerating and bringing again of hair that is decayed. If a perfume hereof be made and infused by a Tunnel into the holes of Serpents, it will drive them away, by reason of the sharp and leavenish savour thereof.

Tralianus maketh a medicine thereof for an Eye-salve against the whitenesse and blond-eyes. It is good also against dimnesse and suffusions, being anointed with the juyce of Leeks: and to conclude, it is drunk in sweet Wine and Vinegar, against the Falling-sicknesse, and also being applyed unto women, stirreth up their monthly courses. And thus much shall suffice for the story of the Crocodile.

Of the DART.



Among the divers kindes of Serpents, there is one of special note, which the Græcians call *Acontia*. The Latines, *Faculares*, or *Faculi*, or *Sagitta*, a Dart or Arrow. The Græcians at this day *Saetta*. The Turks, *Orchilanne*: In Calabria and Sicilia, *Saetione*, and of the Germans, *Ein schoßz oder angelsch lang*. The reason of this name is taken from his swift leaping upon a man to wound and kill him; and therefore the Poets say, *Faculiq; volucres*, speaking of these kindes of Serpents. *Albertus* and *Avicen* also, calleth them *Cafezati*, and *Cafezaci*, *Altararat*, *Acoran*, and *Altinanti*.

The manner of this Serpent is to get up into trees or hedges, and from thence to flie like an Arrow upon the upper parts of men, and so to sting, bite, and kill them: and of this kinde it is thought that was, which came upon the hand of the Apostle Paul, whereof the Poet writeth;

*Ecce proci savus sterilis derobore trunci
Torfit, & immisit (Faculum vocat Africa) Serpens:
Perque caput Pauli transaëaque tempora fugit.*

In English thus;

*Loe from afar, a cruel Serpent from an Oke
Came flying like a Dart, in Africa the same
A Dart is cold, the head and temples stroke
Of Paul, by winding spires to work his bane:*

*Nil ibi virus agit: rapuit cum vulnere fatum,
Depressum est, quæ sanda rotat, quàm lenta volarent,
Quàm segnis Scythiæ strideret arundinis ær.*

*But nothing could the poyson there avail,
For with the wound he put away his death
Faster then swiftest flye, or turning ball,
Or Scythian reed remov'd with windy breath.*

*Marcellinus.
Bellonius.
Olaus Mag.*

This kinde of Serpent is for the most part in *Lybia*, in *Rhodes*, in *Lemnus*, in *Italy*, *Calabria*, and *Sicilia*, and in many of the Northern Countries, and also in *Germany*, whereof *Gesner* telleth this story following. There is neer the Coasts of *Zurich* a River called *Glat*, and a Village or Town upon that River *Glatfelden*. Near this River, as a poor man was gathering wood, there was a Serpent of some three or four foot long, which from a tree endeavoured to leap upon the poor man, by gathering his body together, (as it were into four spires or risings like half hoops) the man seeing it, left his sack and ran away: nevertheless, the Serpent leaped after him at the least sixteen or seventeen foot; but yet for that time he last turned about him, and not seeing the Serpent to follow him, gathered courage and comfort, and would come back again for his sack that he had left behinde him. The crafty Serpent expecting so much, had set himself again in another tree, and privily lay till the man came for his sack, and then ere he was aware came flying at him as he did before, and presently winded about his left arm; all his body except his tail hung down, and his neck which he held up hissing in the mans face: the man having no sleeve on his arm except his shirt, yet did the Serpent so presse the skin and flesh, that the circles of his winding spires and prints of his body appeared therein after he was taken off, yet did he not bite the man, for the poor Countrey fellow did presently with his other hand take him by head and cast him away, notwithstanding he had so folded himself about his arm: shortly after that arm began to grow mattery, and all the flesh to the bone consumed, yet was all the rotten putrified envenomed flesh and substance, by the skill of a worthy learned Physician taken away, and as good flesh brought in the room thereof as ever was before; yet was the man every year prescribed to let that arm bleed, and then issued forth black thick blood: some of the wounds or rather scars, of the poyson outwardly remaining.

Olaus Mag.

In the Northern parts they leap ten foot at a time, first gathering themselves into the similitudes of Bows or half hoops, and then fight with those that they would devour, making many times a noise among the herbs or flowers, which are parched or withered by the Sun; and therefore by the bounty of GOD in nature, their own noise bewrayeth them to their suspicious adversaries, and so many times are avoided in safety. Like unto these are certain in *Hungary*, (as *Johannes Vitus* reported unto *Gesner*.) whose bodies of an equal crassitude or thicknesse, so as they appear without tails, being for that purpose called *Decurtati*, Curtails, these in the same manner do leap upon men as these Darters do, but they are very short, seldom exceeding the length of two hands breadth.

There

There is some difference among Authors about the nature of this Serpent: for *Ælianus* confoundeth it with the Snake of the Earth, called *Chersydrius*, and saith it liveth sometime in the water, and sometime on the land, lying in wait to destroy all living creatures. And (he saith) it useth this fraud; it ever lyeth hid in secret neer the high-ways, and many times climbeth up into trees where it roundeth it self round into a circle, and hideth his head within the folds of his own body, so soon as ever it espyeth a Passenger, either a Man or Beast, it leapeth upon him as swift as a Dart flyeth. For it is able to leap twenty cubits space, and so lighting upon the Man or Beast, sticketh fast unto it without falling off of his own accord, until they fall down dead.

But herein *Ælianus* seemeth to be deceived, because he maketh but one Serpent of twain: namely, this Dart and the Land-snake, which are most apparently different in nature, kinde, and quality.

Aetius also confoundeth this Serpent with the Millet-serpent, called *Cenchrites*, and saith it is of the quantity of two cubits, great on the head, and the fore-part smaller at the tail, being of a greenish colour. And he saith further, that at such time as the Millet-seed groweth and flourisheth, this Serpent is most strong and hurtful, and so with the residue he agreeth with *Ælianus*, but herein he is also deceived, writing by hear-say as himself confesseth, and therefore it is more safe for us to have recourse to some eye-witnesse for the description of this Serpent, then to stand upon the opinions of them which write by the relation of others.

Bellonius saith, that he saw one of these in *Rhodes*, being full of small round black spots, not greater then the seeds of Lentiles, every one having a round circle about him like an eye, after such a fashion as is to be seen in the little Fish called the *Torpedo*. In length it exceedeth not three palms, and in bignesse no greater then the little finger. It was of an Ash-colour, coming neer to the whitenesse of milk, but under the belly it was altogether white: upon the back it had scales, but upon the belly a thin skin, as in all other Serpents.

The upper part of the back was somewhat black, having two black lines in the middle, which begin at the head, and so are drawn along the whole body to the tail. As for the *Cafezati*, and *Alterati* or *Altinatyri*, those are red Serpents, (as *Avicen* saith) which are but small in quantity, yet as deep and deadly in poyson as in any other, for they hurt in the same manner that these Darts do. Some of them do so wound with their poyson, as the afflicted person dyeth incontinent without sense or pain: Some again die by languishing pain after many hopes of recovery, losing life. Among all the people of the World, the *Sabeans* are most annoyed with this kinde of red Serpents; for they have many odoriferous and sweet smelling Woods, in the which these Serpents do abound, but such is their rage and hatred against men, that they leap upon them and wound them deadly, whensoever they come within their compasse. And surely if it be lawful to conjecture what kinde of Serpents those were, which in the Scripture are called fiery Serpents, and did sting the *Israelites* to death in the Wildernesse, until the Brazen Serpent was erected for their cure; among all the Serpents in the world, that kinde of pain and death can be ascribed to none more properly then to these *Cafezati*, or Red-dart-serpents.

For first the Wildernesse which was the place wherein they annoyed the people, doth very well agree to their habitation. Secondly, those fiery Serpents are so called by figure, not that they were fiery, but as all Writers do agree, either because they were red like fire; or else because the pain which they inflicted, did burn like fire, or rather for both these causes together which are joyntly and severally found in these red Serpents; and therefore I will conclude for my opinion, that these Serpents (as the highest poyson in nature) were sent by GOD to afflict the sinning *Israelites*, whose poyson was incurable, except by Divine miracle.

Matthiolus also telleth a story of a Shepherd which was slain in *Italy* by one of these, as he was sleeping in the heat of the day under the shadow of a tree, his fellow Shepherds being not far off looking to their flocks, suddenly there came one of these Dart-serpents out of the tree, and wounded him upon his left pap, at the biting whereof the man awaked and cryed out, and so dyed incontinently: his fellow Shepherds hearing this noise, came unto him to see what he ailed, and found him dead, with a Serpent upon his breast; now knowing what kinde of Serpent this was, they forsook their flocks and ran away for fear.

The cure of this Serpents biting, if there be any at all, is the same which cureth the Vipers, as *Aetius* and *Avicen* writeth, and therefore I will not relate it in this place. The gall of this Beast mixed with the *Scythian* Stone, yeeldeth a very good Eye-salve. The which gall lyeth betwixt the back and the liver: And thus much shall suffice for this Serpent.

Of the DIPSAS.

THIS Dipsas hath many names from many occasions: First *Dipsas* in *Greek* signifieth thirst, as *Sitis* doth in *Latine*, and thereof also it is called *Situla*, because whosoever is wounded by this Serpent dyeth. It is also called by some *Prester*; and by some *Causon*, because it setteth the whole body on fire: but we shall shew afterwards, that the *Prester* is a different Serpent from this. It is called likewise *Melanurus*, because of his black tail, and *Amnoatis*, because it lyeth in the sand, and there hurteth a man. It is not therefore unfitly defined by *Avicen*, to be

Vipera sitim faciens, that is, A Viper causing thirst, and therefore *Ovid* sporting at an old drunken woman named *Lena*, calleth her *Dipsas* in these verses;

*Est quedam nomine Dipsas anus,
Ex re nomen habet, nigri non illa parentem
Memnonis in roseis sobria vidit equis.*

In English thus;

*There is a woman old, which Dipsas may be hight,
And not without some cause, thirsty she ever is,
For never Memmons fire, all black and seldom bright,
Did she in water sweet behold in sobernesse.*

They live for the most part neer the waters, and in salt marishy places: whereupon *Lucan* said:

*Stant in margine sicæ
Aspides, & mediis sitiebant Dipsades undis.*
That is to say;
*Upon pits brink dry Aspes there stood,
And Dipsads thirst in midst of water flood.*

It is called *Torrída Dipsas*, and *Arida Dipsas*, because of the perpetual thirst, and therefore the Egyptians when they will signifie thirst, do picture a *Dipsas*: whereupon *Lucianus* relateth this story, there is (saith he) a statue or monument upon a Grave, right over against the great *Syrtis* betwixt *Silya* and *Egypt*, with this Epigram:

*Talia passus erat quoque Tantalus Æthiope ortus,
Qui nullo potuit fonte levare sitim.
Tale nec è Danao natus implere puellas
Assiduis undis vas potuisse reor.*

That isto say;

*Such Tantalus indured in Æthiope bred,
Which never could by water quench his thirst,
Nor could the Grecian Maids with water sped,
That with dayly pourings till the vessel curst.*

The statue was the picture of a man like unto *Tantalus*, standing in the midst of a water ready to drink, by drawing in of the water, about whose foot was folded a *Dipsas*: close by stood certain women bringing water, and pouring it into him to make it run into his mouth; besides, there were certain Egges as it were of *Estriches* lay pictured beside them, such as the *Garamants* in *Lybia* seek after. For it is reported by *Lucianus*, that the people of that Countrey do earnestly seek after the *Estriches* Egges upon the sands, not only to eat the meat that is in them, but also to make sundry vessels or instruments of the shell, and among other things they make Caps of them. Near unto these Egges do these treacherous Serpents lie in wait, and so while the poor Countrey man cometh to seek for meat, suddenly he leapeth upon him, and giveth him a mortal wound.

Alciatus hath an Embleme, which he seemeth to have translated out of Greek from *Antipater Sidonius*, of a Falconer, which while he was looking up after Birds for meat for his Hawk, suddenly a *Dipsas* came behinde him and stung him to death. The title of his Embleme is, *Qui alta contemplatur cadere*, he that looketh high may fall, and the Embleme it self is this that followeth:

*Dum turdos visco, pedica dum fallit alaudas,
Et jacta altivolam figit arundo gruem,
Dipsada non prudens auceps pede perculit, ultrix*

*Illam mali, emissum virus ab ore jacit.
Sic obit, extento qui sidera respicit arcu,
Securus fati quod jacet ante pedes.*

Which may be thus Englished;

*Whiles Thrush with line, and Lark deceived with net,
And Crane high flying pierced with force of reed,
By Falconer was: behold a Dipsas on the foot did set,
As if it would revenge his bloody foul misdeed,*

*For poyson out of mouth it cast, and bit his foot,
Whereof he dyed, like Birds by him deceived,
Whiles bending bow aloft unto the stars did look,
Saw not his fate below, which him of life bereaved.*

This *Dipsas* is inferior in quantity unto a Viper, but yet killeth by poyson, much more speedily, according to these verses;

*Exigua similis spectatur Dipsas echidne,
Sed festina magis mors iclus occupat egros.
Parva & lurida cui circa ultima cauda nigrescit.*

That

That is to say ;

*This Dipsas like unto the Viper small,
But kills by stroke with greater pain and speed,
Whose tail at end is soft and black with ball,
That as your death avoid, with careful heed.*

It is but a short Serpent, and so small (as *Arnoldus* writeth,) it killeth before it be espyed, the length of it not past a cubit, the fore-part being very thick, except the head which is small, and so backward it groweth smaller and smaller : the tail being exceeding little, the colour of the fore-part somewhat white, but set over with black and yellow spots, the tail very black. *Galen* writeth, that the ancient *Marsi* which were appointed for hunting Serpents and Vipers about *Rome*, did tell him that there was no means outwardly to distinguish betwixt the Viper and the Dipsas, except in the place of their abode, for the Dipsas (he saith) keepeth in the salt places ; and therefore the nature thereof is more fiery, but the Vipers keep in the dryer Countries, wherefore there are not many of the Dipsades in *Italy*, because of the moistnesse of that Countrey, but in *Lybia*, where there are great store of salt marshes. As we have said already, a man or beast wounded with this Serpent, is afflicted with intolerable thirst, insomuch as it is easier for him to break his belly, then to quench his thirst with drinking, always gaping like a Bull, casteth himself down into the water, and maketh no spare of the cold liquor, but continually sucketh it in till either the belly break, or the poyson drive out the life, by overcoming the vital spirits. To conclude, beside all the symptoms which follow the biting of Vipers, which are common to this Serpent, this also followeth them, that the party afflicted can neither make water, vomit, nor sweat, so that they perish by one of these two ways ; first either they are burned up by the heat of the poyson, if they come not at water to drink, or else if they come by water, they are so unsatiable, that their bellies first swell above measure, and soon break about their privy parts. To conclude, all the affections which follow the thick poyson of this Serpent are excellently described by *Lucan* in these verses following ;

*Signiferum juvenem Tyrrheni sanguinis Aulum
Torta caput retrò Dipsas calcata momordit.
Vix dolor aut sensus dentis fuit : ipsaque leti
Frons caret invidia : nec quicquam plaga minatur.
Ecce subit virus tacitum, carpitque medullas
Ignis edax, calidaque incendit viscera tabe.
Ebibit humorem circum vitalia fusum
Pestis, & in sicco linguam torrete palato
Capit, defessos iret qui sudor in artus
Non fuit, atque oculos lachrymarum vena refugit.
Non decus imperii, non mæsti jura Catonis
Ardentem tenuere virum, quin spargere signa*

In English thus ;

*Tyrrhenian Aulum, the ancient-beaver young,
Was bit by Dipsas, turning head to heel, (strong,
No pain or sense of s. teeth appear'd, though poyson
Death doth not frown, the man no harm did feel,
But loe s/he poyson takes the marrow, and eating fire
Burning the bowels warm till all consumed,
Drinking up the humor about the vital spire,
And in dry palat was the tongue up burned.
There was no sweat the sinews to refresh,
And tears fled from the vein that feeds the eyes,
Then Cato's law, nor Empires honor frish,
This fiery youth could hold: but down the streamer flies,*

*Auderet, totisque furens exquireret agris,
Quas poscebat aquas, sitiens in corde venenum.
Ille vel in Tanaim missus, Rhodanumque Padumque,
Auderet, Nilumque bibens per raras vagantem :
Accessit morti Libye : fatigue minorem
Famam Dipsas habet teritis adjuta perustis.
Scrutatur venas penitus squallentis arena :
Nunc redit ad Syrtis & fluxus accipit ore :
Æquoreusque placet, sed non & sufficit humor.
Nec sentit fatigue genus, mortemque veneni :
Sed putat esse suum : ferroque aperire tumentes
Sustinuit venas, atque os implere cruore. Lucan. lib. 9.*

*And like a mad man about the fields he runs,
Poysons force in heart did waters crave :
Though unto Tanais, Rhodanus, Padus he comes,
Or Nilus : yet all too little for his heat to have.
But dry was death, as though the Dipsas force
Were not enough, but help by heat of earth,
Then doth he search the sands : but no remorse,
To Syrtis floud he hies, his mouth of them he fillets,
Salt water pleaseth, but it cannot suffice,
Nor knew he fate, or this kinde venoms death,
But thought it thirst, and seeing his veins arise
Them cut, which bloud stopt mouth and breath.*

The signes of death following the biting of this Serpent, are extreme drought and inflammation both of the inward and outward parts, so that outwardly the parts are as dry as Parchment, or as a skin set against the fire, which cometh to passe by adustion and commutation of the bloud, into the nature of the poyson. For this cause many of the ancients have thought it to be incurable ; and therefore were ignorant of the proper medicines, practising only common medicines prescribed against Vipers : but this is generally observed, that if once the belly begin to break, there can be no cure but death. First therefore they use scarification, and make unction in the body, cutting off the member wounded. If it be in the extremity, they lay also playsters unto it, as Triacle, liquid Pitch with Oyl, Hens cut asunder alive, and so laid to hot, or else the leaves of Purslain beaten in Vinegar, Barley meal, Bramble leaves pounded with Honey, also Plantain, Hysop, white Garlick, Leeks, Rue and Nettles. Then muil the government of their bodies be no lesse looked unto ; first, that they be kept from all sharp and salt meats, then, that they be made continually to drink Oyl, to procure vomit, and with their vomits which they cast out of their stomach, to give them glysters ; that so the waters may be drawn to their lower parts. Besides,

some take medicines out of Fishes, especially such as are salt, and the leaves, bark, or sprigs of Laurel: and to conclude, there is nothing better then Triacle compounded of Vipers flesh. And thus much for the Dipsas.

Of the DOUBLE-HEAD.

BEcause the Grecians call this Serpent *Amphisbaina*, and the Latines from thence *Amphisbena*, because it goeth both ways, as if it had two heads and no tail: and for this purpose it is never seen to turn his body, as it were turn about his head. When it hath a purpose to avoid that thing which it feareth, or wherewithal it is offended, he doth but only change his course backward as he went forward; so that it is as happy as *Lyceus*, whom the Poets faine to be very quick-sighted, or as those Monsters which are said to have eyes in their backs, or rather like to *Janus*, which is said to have two faces, one forward, and another backward, and therefore I have called it Double-head, I trust fitly enough to expesse the Greek word, although compounded of two words together, for so is the Greek word also, which the French do expresse by a like compounded word, *Double-marcheur*, that is, going two ways. It is likewise called *Anakesime*, *Achismus*, and *Amphisilene*. And thus much may suffice for the name.

It is said that this Serpent is found in the Island *Lenius*, but among the Germans it is unknown. There is some question whether it may be said to have two heads or no. *Galen* affirmeth, that it is like a Ship having two fore-parts, that is, one behinde, and another before. *Pliny* also subscribeth hereunto, and maketh it a very pestilent Serpent, *Geminum habet caput* [*Amphisbena*, *tangquam parum esset, uno ore fundi venenum*, saith he; It hath a double-head, as though one mouth were not enough to utter his poyson, according to the saying of the Poet:

*Est gravis in geminum surgit caput Amphis-bena
Serpens qui visu necat & sibilo.*

Which may be Englished thus;

*This Serpent Double-head, is grievous to be seen,
Whose cloven-head doth kill with sight and hissing keen.*

Unto this also *Aelianus* subscribeth, that it is a true Serpent, and hath two heads, so that whensoever it is to go forward, one of them standeth in the place of the tail, but when it is to go backward, then the head becometh the tail, and the tail the head. So also *Mantuan* saith it is a double-headed Serpent, and a fearful stinging Asp. And so generally all the Ancients, until *Matthiolus* and *Grevinus* time, who first of all began to contrary this opinion, affirming it to be impossible in nature, for one Serpent to have two heads, except it be monstrous, and exceed the common course of nature. Such a one was that Serpent with two heads that *Aristotle* speaketh of, which doth easily happen to all those creatures which at one birth bring forth many young ones; for so their bodies may be conjoynd into one, while theit heads stand asunder like twain. And they say that this Serpent doth resemble a Worm of the earth, whose head and tail is hard to be distinguished asunder except you see it going. And they say further, that this Serpent is like to the *Scytal*, of which we shall speak afterwards, differing from it in nothing except in going backward and forward, and this is all that they can bring against the opinion of the Ancients, whom I will not stand to confute, but leave the Reader to believe one or other: for it shall not bring to me any great disadvantage, except the losse of this new English name, for I have dealt faithfully with the Reader in setting down the opinion of both sides, and if I do fail in a fit name, yet will I not swerve from the best description of his nature.

The whole proportion of his body is of equal magnitude or greatnes, and the two extremities do answer the middle. His eyes are for the most part shut, the colour like earth, not black, but tending to blacknesse, the skin rough and hard, and set over with divers spots: all which properties, or rather parts are thus described by *Nicander*.

*Cujus perpetua est caecum caligine lumen,
Quod latas utrinq; genas porrectaq; menta,
Terrens est illi color, & densissima pellis
Plurima quam varii distinctam signa figurant,
Plus aliis alio Serpentibus aggere tendat.*

In English thus:

*Whose eye is ever void of light, because
Two cheeks both broad and standing up it hides,
The colour earth, thick skin, with spots in rows,
Then other Serpents with greater bulk it glides.*

Solinus Polibistor affirmeth, that they ingender and bring egges forth of the mouth, that is, out of that mouth which is toward the tail, if there be any such. There is no Serpent that doth more boldly adventure to indure the cold then this doth, for it cometh out of his den not only before other Serpents, but also before the Cuckoe sing, or the Grasshopper cometh forth. They are exceeding

exceeding careful of their egges, and therefore seldom depart from them until they be hatched, whereby also may be collected their great love to their young ones. And further, by their forward and timely coming out of their holes, Grevinus maketh a good observation, that their temperament or constitution, is more hot then any other Serpent.

The Grecians have all observed, that this kinde of Serpent is hard to be killed, except with a Vine-branch, which they say was demonstrated by Dionysius, who being turned by Juno into madnesse, one day falling fast asleep, this Serpent leaped upon him and awaked him, whereat he being angry, presently killed it with a Vine-branch. Some have affirmed that a small rod or bat covered with the skin of this Serpent, and so laid beside a man, driveth away all manner of venomous Beasts. A wilde Olive-branch or sprig wapped in this skin, doth cure the senselesse and benumbed estate of the sinews, and also is good for many things, as Nicander expresseth in these verses

*Hæc ubi jam crevit, cadentes ligna coloni
Sciamdeglabrant oleastri ex arbore virgam,
Quale pedum, stricti q; prehensi pellibus Anguis
Insectam obvolvunt, quas certis deinde diebus
Exarere sinunt, cantantes ante cicadas.*

*Utilis hio baculus frigentibus artibus esse
Fertur, ubi ex animis digitos torpedo fatigat,
Tunc quia constrictos, & eorum vincula, nervos
Calfacit immisso, fovet extendiq; calore.*

Which may be Englished thus;

*When this is grown, the Peasants cutting wood,
Do peel a branch taken from Olive-wilde,
A foot in length, of strained Snakes-skin good,
Rowling it up herein, till days fullild,*

*And let it dry before Grasshoppers green:
Thus made, is good for Sinews cold,
Or nummed fingers, whose force hath been
By heat extending what cold band did hold.*

The wounds that come by the biting or stinging of this Serpent, are not great, but very small, and scarcely to be discerned outwardly, yet the accidents that follow, are like to those which ensue the bitings of Vipers, namely, inflammation, and a lingering death. The cure thereof must be the same which is applyed unto the sting of Vipers. And peculiarly I finde not any medicine serving for the cure of this poyson alone, except that which Pliny speaketh of, namely Coriander drunk by the patient, or laid to the sore.

It is reported by Galen and Grevinus, that if a woman with childe do chance to go over one of these Double-headed Serpents dead, she shall suffer abortment, and yet that they may keep them in their pockets alive without danger in boxes. The reason of this is given by Grevinus, because of the vapour ascending from the dead Serpent, by a secret antipathy against humane nature, which suffocateth the childe in the mothers womb. And thus much for this Serpent.

of the DRAGON.



AMong all the kindes of Serpents, there is none comparable to the Dragon, or that affordeth and yeeldeth so much plentiful matter in History for the ample discovery of the nature thereof: and therefore herein I must borrow more time from the residue, then peradventure the Reader

would be willing to spare from reading the particular stories of many other. But such is the necessity hereof, that I can omit nothing making to the purpose, either for the nature or morality of this Serpent, therefore I will strive to make the description pleasant, with variable history, seeing I may not avoid the length hereof, that so the sweetness of the one, (if my pen could so expresse it) may countervail the tediousness of the other.

The Hebrews call it *Tbanin*, and *Wolphius* translateth *Oach* a Dragon, in his Commentaries upon *Nehemiah*. The Chaldees call it *Darkon*, and it seemeth that the Greek word *Dracon* is derived of the Chaldees. We read of *Albedysimon*, or *Abedysimon*, for a kinde of Dragon, and also *Albatraf*, and *Hauden*, *Haren carnem*, and such other terms, that may be referred to this place. The Grecians at this day call it *Drakos*; the Germans, *Trach Lindturm*; the French, *Un Dragon*; the Italians, *Drago*, and *Dragone*. The derivation of the Greek word, beside the conjecture afore expressed, some think to be derived from *Derkein*, because of their vigilant eye-sight, and therefore it is faigned that they had the custody not only of the Golden-fleece, but also of many other treasures. And among other things, *Alciatus* hath an emblem of their vigilancy standing by an unmarried Virgin.

Vera hæc effigies innuptæ est Palladis : ejus.

Hic Draco, qui domina constitit ante pedes.

Cui Diva comes hoc animal? custodia rerum

Which may be Englished thus;

This Dragon great which Lady Pallas stands before,

Is the true picture of unmarried Maids :

But why a consort to the Goddess is this? and more

Then other beasts more meek, who never fades?

Huic data, sic lucos sacraque templa colit.

Innuptas opus est cura asservare puellas

Pervigili : laqueos undique tendit amor.

Because the safeguard of all things belong to this, (Set,

Wherefore his house in Groves and sacred Temples

Unmarried Maids of guards must never misse,

Which watchful are to void loves snares and net.

For this cause the Egyptians did picture *Serapis* their God with three heads, that is to say, of a Lyon in the middle, on the right hand a meek fawning Dog, and on the left hand a ravening Wolf, all which forms are joyned together by the winding body of a Dragon, turning his head to the right hand of the God; which three heads are interpreted to signifie three times; that is to say, by the Lyon the present time; by the Wolf, the time past; and by the fawning Dog, the time to come; all which are guarded by the vigilancy of the Dragon. For this cause also among the fixed Stars of the North, there is one called *Draco*, a Dragon, all of them ending their course with the Sun and Moon, and they are in this Sphear called by Astronomers the Intersections of the Circles, the superior of these ascending, is called the head of the Dragon, and the inferior descending, is called the tail of the Dragon. And some think that GOD in the 38. of Job, by the word *Gneish*, meaneth this Sign or Constellation.

To conclude, the ancient Romans (as *Vegetius* writeth) carryed in all their Bands the Escutchion of a Dragon, to signifie their fortitude and vigilancy, which were born up by certain men called for that purpose *Draconarii*. And therefore when *Constantius* the Emperor entered into the City of Rome, his souldiers are said to bear up upon the tops of their spears, Dragons gaping with wide mouths, and made fast with golden chains and pearl, the winde whistling in their throats, as if they had been alive, threatening destruction, and their tails hanging loose in the air, were likewise by the winde tossed to and fro, as though they strove to come off from the spears, but when the winde was laid, all their motion was ended, whereupon the Poet saith :

Mansuescunt varii vento cessante Dracones.

In English thus;

When whistling winde in air ceaseth,

The Dragons tamed then did rest.

The tale also of the Golden-fleece, if it be worth any place in this story, deserveth to be inserted here, as it is reported by *Diodorus Siculus*. When *Aetes* reigned in *Pomus*, he received an answer from the Oracle, that he should then dye when strangers should come thither with ships and fetch away the Golden-fleece. Upon which occasion he shewed himself to be of a cruel nature, for he did not only make Proclamation that he would sacrifice all strangers which came within his Dominions, but did also perform the same, that by the fame and report of such cruelty, he might terrifie all other Nations from having access unto that Temple. Not contented herewith, he raised a great strong wall round about the Temple wherein the Fleece was kept, and caused a sure watch or guard to attend the same day and night, of whom the Grecians tell many strange fables. For they say there were Bulls breathing out fire, and a Dragon warding the Temple and defending the Fleece, but the truth is that these watchmen because of their strength were called Bulls, because of their cruelty, were said to breath out fire, and because of their vigilancy, cruelty, strength and terror, to be Dragons.

Some affirm again, that in the Gardens of *Hesperides* in *Lybia*, there were golden Apples, which were kept by a terrible Dragon, which Dragon was afterward slain by *Hercules*, and the Apples taken away by him, and so brought to *Euryfibeus*. Others affirm that *Hesperides* had certain flocks of sheep, the colour of whose wooll was like gold, and they were kept by a valiant shepherd called *Draco*: but I rather agree with *Solinus*, who giveth a more true reason of this fable, *Ne fama licentia*

vulneretur

vulneretur fides, lest (as he saith) faith and truth should receive a disgrace or wound by the lavish report of fame. There was among the *Hesperides* a certain winding River coming from the Sea, and including within it the compasse of that land which is called the Gardens of *Hesperides*, at one place whereof, the falling of the water broken by a Rock, seemeth to be like the falling down of Snakes, to them that stand a far off, and from hence ariseth all the occasion of the fable aforesaid.

Indeed there was a statue of *Hercules*, in the left hand whereof were three Apples, which he was said to have obtained by the conquest of a Dragon, but that conquest of the Dragon did morally signifie his own concupiscence, whereby he reigned over three passions, that is to say, over his wrath by patience; over his cupidity by temperance; and over his pleasures by labour and travail: which were three vertues far more precious then three golden Apples. But I will stay my course from prosecuting these moral discourses of the Dragon, and return again to his natural History, from which I have somewhat too long digressed.

There are divers sorts of Dragons, distinguished partly by their Countries, partly by their quantity and magnitude, and partly by the different form of their external parts. There be Serpents in *Arabia* called *Sirene*, which have wings, being as swift as Horses, running or flying at their own pleasure, and when they wound a man, he dyeth before he feelth pain. Of these it is thought the Prophet *Ejaj* speaketh, chap. 13. vers. 22. *Serpens clamabit in Templis voluptariis*: and for Serpents the old Translators read *Syrène*, and so the English should be, the *Syrène* Dragons should cry in their Temples of pleasure: and the ancient distinction was, *Angues aquarum*, *Serpentes terrarum*, *Dracones Templorum*: that is to say, Snakes are of the water, Serpents of the earth, and Dragons of the Temples. And I think it was a just judgement of God, that the ancient Temples of the Heathen Idolaters were annoyed with Dragons, that as the Devil was there worshipped, so there might be appearance of his person in the ugly form and nature of a Dragon. For God himself in holy Scripture, doth compare the Devil unto a Dragon, as Rev. 12. vers. 3. And there appeared another wonder in Heaven, for behold a great red Dragon, having seven heads, and ten horns, and seven crowns upon his head. Vers. 4. And his tail drew the third part of the stars of heaven, and cast them to the earth: and the Dragon stood before the Woman which was ready to be delivered, to devour her childe when she had brought it forth. Vers. 5. So she brought forth a man-childe, which should rule all Nations with a rod of Iron. And her Son was taken up unto God and to his throne. Vers. 6. And the Woman fled into the Wildernesse, where she hath a place prepared of God, that they should feed her there 1260 days. Vers. 7. And there was a battail in heaven, Michael and his Angels fought against the Dragon, and the Dragon fought and his Angels. Vers. 8. But they prevailed not, neither was their place found any more in heaven. Vers. 9. And the great Dragon that old Serpent called the Devill and Satan, was cast out, which deceiveth all the world, he was even cast unto the earth, and his Angels were cast out with him. Vers. 13. And when the Dragon saw that he was cast unto the earth, he persecuted the Woman which had brought forth a man-childe: and so forth, as it followeth in the Text. Whereupon Saint *Augustine* writeth, *Diabolus Draco dicitur propter insidias, quia occulte insidiatur*: that is, the Devill is called a Dragon because of his treachery, for he doth treacherously set upon men to destroy them.

It was wont to be said, because Dragons are the greatest Serpents, that except a Serpent eat a Serpent, he shall never be a Dragon: for their opinion was, that they grew so great by devouring others of their kinde; and indeed in *Æthiopia* they grow to be thirty yards long, neither have they any other name for those Dragons but Elephant-killers, and they live very long.

Onesicritus writeth, that one *Aposissares* an Indian, did nourish two Serpents Dragons, whereof one was six and forty cubits long, and the other fourscore: and for the more famous verification of the fact, he was a very earnest suter to *Alexander* the Great, when he was in *India*, to come and see them, but the King being afraid, refused.

The Chroniclers of the affairs of *Chius* do write, that in a certain Valley neer to the foot of the Mountain *Pellenæus*, was a Valley full of straight tall trees, wherein was bred a Dragon of wonderful magnitude or greatnesse, whose only voyce or hissing, did terrifie all the Inhabitants of *Chius*, and therefore there was no man that durst come nigh unto him, to consider or to take a perfect view of his quantity, suspecting only his greatnesse by the loudnesse of his voyce, until at length they knew him better by a singular accident worthy of eternal memory. For it hapned on a time that such a violent winde did arise, as did beat together all the Trees in the Wood, by which violent collision the branches fell to be on fire, and so all the Wood was burned suddenly, compassing in the Dragon, whereby he had no means to escape alive, & so the trees fel down upon him and burned him. Afterward, when the fire had made the place bare of wood, the Inhabitants might see the quantity of the Dragon, for they found divers of his bones and his head, which were of such unusual greatnesse, as did sufficiently confirm them in their former opinion: and thus by divine miracle was this monster consumed, whom never any man durst behold being alive, & the Inhabitants of the Countrey safely delivered from their just conceived fear.

It is also reported, that *Alexander* among many other Beasts which he saw in *India*, did there finde in a certain den a Dragon of seaventy cubits long, which the *Indians* accounted a sacred Beast, and therefore intrated *Alexander* to do it no harm. When it uttered the voyce with full breath, it terrified his whole Army: they could never see the proportion of his body, but only the head, and by that they guessed the quantity of the whole body, for one of his eyes in their appearance seemed as great as a *Macedonian* buckler. *Maximus Tyrinus* writeth that in the days of *Alexander*, there was likewise seen a Dragon in *India*, as long as five roods of lands are broad, which is incredible. For he

Ælianus.

likewise saith that the *Indians* did feed him every day with many several Oxen and Sheep. It may be that it was the same spoken of before, which some ignorant men, and such as were given to set forth fables, amplified beyond measure and credit.

Whereas Dragons are bred in *India* and *Africa*, the greatest of all are in *India*, for in *Ethiopia*, *Nubia*, and *Hesperia* the Dragons are confined within the length of five cubits and twenty cubits: for in the time of *Euergetis*, there were three brought into *Egypt*, one was nine cubits long, which with great care was nourished in the Temple of *Esculapius*, the other two were leaven cubits long. About the place where once the Tower of *Babel* was builded, are Dragons of great quantity, and under the Equinoctial, as *Nicephorus Callistus* writeth, there are Serpents as thick as beams, in testimony whereof their skins have been brought to *Rome*. And therefore it is no marvel, although *S. Augustine* writing upon the 148. Psalm, doth say, *Dracones magna quedam sunt animalia, majora non uni super terram*: Dragons are certain great beasts, and there are none greater upon the earth. Neither is it to be thought incredible, that the souldiers of *Anilius Regulus* did kill a Dragon which was a hundred and twenty foot long, or that the Dragons in the dens of the Mountain *Aila*, should grow to great that they can scarce move the fore-parts of their body. I am yet therefore to speak of the Dragons in the Mountains *Emocit*, or of *Agia*, or of *Dachinabades*, or the Regions of the East, or of that which *Augustus* shewed publicly to the people of *Rome*, being fifty cubits long; or of those which be in the *Alpes*, which are found in certain Caves of the South-sides of the hills, so that this which hath been said, shall suffice for the quantity and Countries of Dragons. Besides, there are other kinds of Dragons which I must speak of in order: and first of all of the *Epidaurian* Dragons, which is bred no where but in that Countrey, being tame, and of yellow golden colour, wherefore they were dedicated to *Esculapius*, of whom *Nicander* writeth in this manner.

Nunc viridem & nigrum post dicta venena Draconem

Aspice, quæ patula sago Phæbeia proles

In gelido Peli nutriti culmine, juxta

Letæ Pelethunæ quondam declivia vallis.

In English thus;

After these venoms now behold the Dragon black and green,

Nourished by *Apollo's* son under a Beech full broad,

On top of the cold *Pelus*, as often hath been seen,

By fertile vale of *Pelethun* by sliding road.

There are likewise other kinde of tame Dragons in *Macedonia*, where they are so meek, that women feed them, and suffer them to suck their breasts like little children. their Infants also play with them, riding upon them and pinching them, as they would do with Dogs, without any harm, and sleeping with them in their beds. But among all Dragons, there was none more famous then the Dragon *Python*, or *Pythias*, as the Poets saign, which was bred of the slime of the earth, after the flood of *Deucalion*, and slain afterwards by *Apollo*, whereof there lyeth this tale; That when *Latona* was with childe by *Jupiter* or *Apollo* and *Diana*, *Juno* resisted their birth, but when they were born and laid in the Cradle, she sent the Dragon *Python* to devour them, *Apollo* being but a young Infant, did kill the Dragon with a dart. But this tale seemeth too fabulous and incredible, and therefore they have mended the matter with another device; For they say that *Pythion* by the commandment of *Juno*, did persecute *Latona* throughout all the world, seeking to devour her, so as she had no rest until she came unto her sister *Asteria*, who received her into *Delos*, where she was safely delivered of *Apollo* and *Diana*. Afterward, when the childe was grown up, he slew the Dragon in remembrance and revenge of the wrong done to his mother. But the true cause of this History is delivered by *Pausanias* and *Macrobius*, to be thus; That *Apollo* killed one *Pythion*, a very wicked man in *Delpi*, or, and that the Poets in excuse of the fact, did saign him to be a Dragon, as aforesaid. And so I shall not need to say any more of *Python*, except these verses following out of *Ovid* about his generation:

Sed te quoq; maxima Python,
Tum genuit populisq; novis incognite Serpens
Terror eras: tantum spatii æ monie tenebas.
Hunc Deus arcitenens & nunquam talibus armis
Antè, nisi in damis, caprisque jugacibus usus:
Mille gravem telis exhausta pene pharetra

Perdidit effuso per vulnera nigra veneno.
Neve operis famam posset delere vetustas,
Instituit sacros celebri certamine udos
Pythia perdemite Serpentis nomine dictos.
Ceruleum tali prostratus Apolline Python.

Which may be Englished thus;

But yet thou ugly *Python* wert engendered by her, tho
A terror to the new-made-folk, which never erst had known,
So foul a Dragon in their life, so monstrously fore-grown,
So great a ground thy poison'd paunch did underneath thee hide,
The God of shooting, who no where before that present tide
Those kinde of weapons put in ure but at the speckled Deer,
Or at the Roes so light of foot, a thousand shafts well neer

Did on the hideous Serpent spend, of which there was not one
 But forced forth the venomd-bloud, along his sides to gone :
 So that his quiver almost void, he naid him to the ground,
 And did him nobly at the last by force of shot confound.
 And lest that time should of this work deface the worthy fame,
 He did ordain in minde thereof a great and solemn game,
 Which of the Serpent that he flew, of Python bare the name.

Of the Indian Dragons there are also said to be two kindes, one of them fenny, and living in the marishes, which are slow of pace and without combs on their heads like females : the other in the Mountains, which are more sharp and great, and have combs upon their head, their backs being somewhat brown, and all their bodies lesse scaly then the other. When they come down from the Mountains into the plain to hunt, they are neither afraid of marishes nor violent waters, but thrust themselves greedily into all hazards and dangers : and because they are of longer and stronger bodies then the Dragons of the fens, they beguile them of their meat, and take away from them their prepared booties. Some of them are of a yellowish fiery colour, having also sharp backs like saws ; these also have beards, and when they set up their scales they shine like silver. The apples of their eyes are precious stones, and as bright as fire, in which there is affirmed to be much vertue against many diseases, and therefore they bring unto the Hunters and killers of Dragons no small gain, besides the profit of their skin, and their teeth : and they are taken when they descend from the Mountains into the Valleys to hunt the Elephants, so as both of them are kill'd together by the Hunters.

Their members are very great, like unto the members of the greatest Swine, but their bodies are leaner, flexibly turning to every side, according to the necessity of motion : Their snouts are very strong, resembling the greatest ravening Fishes ; they have beards of a yellow golden colour, being full of bristles : and the Mountain-dragons commonly have more deep eye-lids then the Dragons of the Fens. Their aspect is very fierce and grim, and whensoever they move upon the earth, their eyes give a sound from their eye-lids, much like unto the tinkling of Brasse, and sometimes they boldly venture into the Sea and take Fishes.

of the WINGED DRAGON.

Here be some Dragons which have wings and no feet, some again have both feet and wings, and some neither feet nor wings, but are only distinguished from the common sort of Serpents by the combe growing upon their heads, and the beard under their cheeks.

Saint Augustine saith, that Dragons abide in deep Caves and hollow places of the earth, and that sometimes when they perceive moistnes in the air, they come out of their holes, & beating the air with their wings, as it were with the strokes of Oars, they forsake the earth and flie aloft : which wings of theirs are of a skinny substance, and very voluble, and spreading themselves wide, according to the quantity and largeness of the Dragons body, which caused Lucan the Poet in his verses to write in this manner following :

*Vos quoq; qui cunctis innoxia numina terris
 Serpitibus, aurato nitidi fulgore Dracones,
 Pestiferos ardens facit Africa : ducit is altum
 Aera cum pennis, &c.*

In English thus ;

*You shining Dragons creeping on the earth,
 Which fiery Africk holds with skins like gold,
 Yet pestilent by hot infecting breath :
 Mounted with wings in th' air we do behold.*

The Inhabitants of the Kingdom of Georgia, once called Media, do say that in their Vallies there are divers Dragons which have both wings and feet, and that their feet are like unto the feet of Geese. Besides, there are Dragons of sundry colours, for some of them are black, some red, some of an ash-colour, some yellow, and their shape and outward appearance very beautiful, according to the verses of Nicander.

*Formosa apparet species pulchro illius ore,
Triplice conspicui se produnt ordine dentes,*

Which may be Englished thus;

*Their form of presence outwardly appears
All beautiful, and in their goodly mouth
Their teeth stand double, all one within another:
Conspicuous order so doth bewray the truth.*

*Magna sub egregia scintillant lumina fronte,
Tinctaq; felle tegunt immum palearia mentum.*

*Under their brows, which are both great and wide,
Stand twineckling eyes, as bright as any star,
With red galls tincture are their dewlaps dyed,
Their chinor under-chap to cover far.*

Gillius, Pierius, and Grevinus, following the authority of this Poet, do affirm that a Dragon is of a black colour, the belly somewhat green, and very beautiful to behold, having a treble row of teeth in their mouths upon every jaw, and with most bright and cleer seeing eyes, which caused the Poets to feign in their writings, that these Dragons are the watchfull keepers of Treasures. They have also two dewlaps growing under their chin, and hanging down like a beard, which are of a red colour: their bodies are set all over with very sharp scales, and over their eyes stand certain flexible eye-lids. When they gape wide with their mouth, and thrust forth their tongue, their teeth seem very much to resemble the teeth of wilde Swine: And their necks have many times grosse thick hair growing upon them, much like unto the bristles of a wilde Boar.

Their mouth, (especially of the most tameable Dragons) is but little, not much bigger then a pipe, through which they draw in their breath, for they wound not with their mouth, but with their tails only beating with them when they are angry. But the *Indian, Æthiopian, and Phrygian* Dragons, have very wide mouths, through which they often swallow in whole fowls and beasts. Their tongue is cloven as if it were double, and the Investigators of nature do say, that they have fifteen teeth of a side. The males have combs on their heads, but the females have none, and they are likewise distinguished by their beards.

They have most excellent senses both of seeing and hearing, and for this cause their name *Drakon* cometh of *Derkein*, and this was one cause why *Jupiter* the Heathens great God, is said to be metamorphosed into a Dragon, whereof their flyeth this tale: when he fell in love with *Proserpina*, he ravished her in the likenesse of a Dragon, for he came unto her and covered her with the spires of his body; and for this cause the people of *Sabazii* did observe in their mysteries or sacrifices, the shape of a Dragon rowled up within the compasse of his spires: so that as he begot *Ceres* with childe in the likenesse of a Bull, he likewise deluded her daughter *Proserpina* in the likenesse of a Dragon; but of these transmutations we shall speak more afterwards, and I think the vanity of these took first ground from the *Africans*, who believe that the original of Dragons took beginning from the unnatural conjunction of an Eagle and a she Wolf. And so they say that the Wolf growing great by this conception, doth not bring forth as at other times, but her belly breaketh and the Dragon cometh out, who in his beak and wings resembleth the Dragon his father, and in his feet and tail, the Wolf his mother, but in the skin neither of them both: but this kinde of fabulous generation is already sufficiently confuted. Their meats are fruits and herbs, or any venomous creature, therefore they live long without food, and when they eat, they are not easily filled. They grow most fat by eating of egges, in devouring whereof they use this Art, if it be a great Dragon, he swalloweth it up whole, and then rowleth himself, whereby he crusheth the egges to pieces in his belly, and so nature casteth out the shells, and keepeth in the meat. But if it were a young Dragon, as if it be a Dragons whelp, he taketh the egge within the spire of his tail, and so crushed it hard, and holdeth it fast, untill his scales open the shell like a knife, then sucketh he out of the place opened all the meat of the egg. In like sort do the young ones pull off the feathers from the fowls which they eat, and the old ones swallow them whole, casting the feathers out of their bellies again.

The Dragons of *Phrygia* when they are hungry, turn themselves towards the West, and gaping wide, with the force of their breath do draw the Birds that flie over their heads into their throats, which some have thought is but a voluntary lapse of the Fowls, to be drawn by the breath of the Dragon, as by a thing they love, but it is more probable, that some vaporous and venomous breath is sent up from the Dragon to them, that poysoneth and infecteth the air about them, whereby their senses are taken from them, and they astonished fall down into his mouth. But if it fortune the Dragons finde not food enough to satisfie their hunger, then they hide themselves until the people be returned from the market, or the heard-men bring home their flocks, and upon a sudden they devour either Men or Beasts, which come first to their mouths: then they go again and hide themselves in their dens and hollow Caves of the earth, for their bodies being exceeding hot, they very seldom come out of the cold earth, except to seek meat and nourishment. And because they live only in the hottest Countries, therefore they commonly make their lodgings neer unto the waters, or else in the coldest places among the rocks and stones.

They greatly preserve their health (as *Aristotle* affirmeth) by eating of wilde Lettice, for that they make them to vomit, and cast forth of their stomach whatsoever meat offendeth them, and they are most specially offended by eating of Apples, for their bodies are much subject to be filled with winde, and therefore they never eat Apples, but first they eat wilde Lettice. Their sight also (as *Plutarch* saith) doth many times grow weak and feeble, and therefore they renew and recover the same again by rubbing their eyes against Fennel, or else by eating of it.

Their age could never yet be certainly known, but it is conjectured that they live long, and in great health, like to all other Serpents, and therefore they grow so great. They do not only live on the land, as we have said already, but also swim in the water, for many times they take the Sea in *Æthiopia*, four or five of them together, folding their tails like hurdles, and holding up their heads, so swim they over to seek better food in *Arabia*.

We have said already, that when they set upon Elephants, they are taken and killed of men: now the manner how the *Indians* kill the Mountain Dragons is thus; they take a garment of Scarlet, and picture upon it a charm in golden letters, this they lay upon the mouth of the Dragons den, for with the red colour and the gold, the eyes of the Dragon are overcome, and he falleth asleep, the *Indians* in the mean season watching, and muttering secretly words of Incantation; when they perceive he is fast asleep, suddenly they strike off his neck with an Ax, and so take out the balls of his eyes, wherein are lodged those rare and precious stones which contain in them vertues unutterable, as hath been evidently proved by one of them, that was included in the Ring of *Gyges*. Many times it falleth out, that the Dragon draweth in the *Indian* both with his Ax and Instruments into his den, and there devoureth him, in the rage whereof, he so beateth the Mountain that it shaketh. When the Dragon is killed, they make use of the skin, eyes, teeth, and flesh; as for the flesh, it is of a vitriol or glassie colour, and the *Æthiopians* do eat it very greedily, for they say it hath in it a refrigerative power. And there be some which by certain enchanting verses do tame Dragons, and rideth upon their necks, as a man would ride upon a Horse, guiding and governing them with a bridle.

Now because we have already shewed, that some Dragons have wings, lest it should seem incredible, as the foolish world is apt to believe no more then they see, I have therefore thought good to add in this place, a particular relation of the testimonies of sundry learned men, concerning these winged Serpents or Dragons. First of all *Megasthenes* writeth, that in *India* there be certain flying Serpents, which hurt not in the day, but in the night time, and these do render or make a kinde of urine, by the touching whereof, all the parts of mortal creatures do rot away. And there is a Mountain which divideth aunder the Kingdom of *Narsinga* from *Alabar*, wherein be many winged Serpents sitting upon trees, which they say poyson men with their breath. There be many pestilent winged Serpents which come out of *Arabia* every year by troupes into *Egypt*, these are destroyed by a certain black Bird called *Ibis*, who fighteth with them in the defence of that Countrey where she liveth, so that there lie great heaps of them many times destroyed upon the earth by these Birds, whose bodies may be there visibly seen to have both wings and legs, and their bones being of great quantity and stature, remain unconsumed for many years after. These kinde of Serpents or Dragons, covet to keep about Trees of Frankincense which grow in *Arabia*, and when they are driven away from thence with the fume or smoak of *Stirax*, then they flie (as is aforesaid) into *Egypt*, and this is to be considered, that if it were not for this *Stirax*, all that Countrey would be consumed with Dragons.

Ælianus.
Scaliger.

Ælianus.
Herodotus.

Neither have we in *Europe* only heard of Dragons and never seen them, but also even in our own Country, there have (by the testimony of sundry Writers) divers been discovered and killed. And first of all, there was a Dragon or winged Serpent brought unto *Francis* the French King, when he lay at *Sancton*, by a certain Countreyman, who had slain the same Serpent himself with a Spade, when it set upon him in the fields to kill him. And this thing was witnessed by many learned and credible men which saw the same: and they thought it was not bred in that Countrey, but rather driven by the winde thither from some forain Nation. For *France* was never known to breed any such Monsters. Among the *Pyrenes* also, there is a cruel kinde of Serpent, not past four foot long, and as thick as a mans arm, out of whose sides grow wings much like unto gristles.

Brodeus.
Scaliger.

Gesner also saith, that in the year of our Lord 1543. there came many Serpents both with wings and legs into the parts of *Germany* neer *Stiria*, who did bite and wound many men incurably. *Cardan* also describeth certain Serpents with wings, which he saw at *Paris*, whose dead bodies were in the hands of *Gulielmus Muscius*, he saith that they had two legs and small wings, so that they could scarce flie, the head was little, and like to the head of a Serpent, their colour bright, and without hair or feathers, the quantity of that which was greatest, did not exceed the bignesse of a Cony, and it is said they were brought out of *India*. Besides, a further confirmation of these Beasts, there have been noted in all ages; for it is written in the *Roman Chronicles*, the times of their apparition and manifestation.

Crinitus.

When the River of *Tiber* over-flowed above the banks, then were many Serpents discovered, and many Dragons, as in the time of *Mauritius* the Emperor, at what time a Dragon came along by the City of *Rome*, upon the waters in the sight of all men, and so passed to the Sea: after which prodigy, there followed a great mortal pestilence. In the year 1499. the 26. day of May, there came a Dragon to the City of *Lucerne*, which came out of the Lake through *Rusa*, down along the River, many people of all sorts beholding the same.

Stumpfius.

There have been also Dragons many times seen in *Germany*, flying in the air at mid-day, and signifying great and fearful fires to follow, as it happened neer to the City called *Niderburge*, neer to the shore of the *Rhene*, in a marvellous clear Sun-shine day, there came a Dragon three times successively together in one day, and did hang in the air over a Town called *Sanctagoarin*, shaking his tail over that Town every time: it appeared visibly in the sight of many of the Inhabitants, and afterwards it came to passe, that the said Town was three times burned with fire, to the great harm and undoing

undoing of all the people dwelling in the same : for they were not able to make any resistance to quench the fire, with all the might, Art, and power that they could raise. And it was further observed, that about that time there were many Dragons seen washing themselves in a certain Fountain or Well neer the Town, and if any of the people did chance to drink of the water of that Well, their bellies did instantly begin to swell, and they dyed as if they had been poysoned. Whereupon it was publicly decreed, that the said Well should be filled up with stones, to the intent that never any man should afterwards be poysoned with that water ; and so a memory thereof was continued, and these things are written by *Justinus Goblerus*, in an Epistle to *Gesner*, affirming that he did not write fained things, but such things as were true, and as he had learned from men of great honesty and credit, whose eyes did see and behold both the Dragons, and the mishaps that followed by fire.

When the body of *Cleomenes* was crucified, and hung upon the Crosse, it is reported by them that were the watch-men about it, that there came a Dragon and did winde it self about his body, and with his head covered the face of the dead King, oftentimes licking the same, and not suffering any Bird to come neer and touch the carcasie. For which cause there began to be a reverent opinion of divinity attributed to the King, until such time as wise and prudent men, studious of the truth, found out the true cause hereof. For they say that as Bees are generated out of the body of Oxen, and Drones of Horses, and Hornets of Asles : so do the bodies of men ingender out of their marrow a Serpent, and for this cause the Ancients were moved to consecrate the Dragon to Noble-spirited men, and therefore there was a monument kept of the first *Africanus*, because that under an Olive planted with his own hand, a Dragon was said to preserve his ghost.

But I will not mingle fables and truths together, and therefore I will reserve the moral discourse of this Beast unto another place ; and this which I have written, may be sufficient to satisfie any reasonable man, that there are winged Serpents and Dragons in the world. And I pray God that we never have better arguments to satisfie us, by his corporal and lively presence in our Countrey, lest some great calamity follow thereupon. Now therefore we will proceed to the love and hatred of this Beast, that is observed with man and other creatures.

And first of all, although Dragons be natural enemies to men, like unto all other Serpents, yet many times (if there be any truth in story) they have been possessed with extraordinary love, both to men, women and children, as may appear by these particulars following. There was one *Aleva* a *Thessalian* Neatherd, which did keep Oxen in *Ossa*, hard by the Fountain *Hemonius*, there was a Dragon fell in love with this man, for his hair was as yellow as any gold, unto him for his hair did this Dragon often come, creeping closely as a Lover to his Love : and when he came unto him, he would lick his hair and face so gently, and in so sweet a manner, as the man professed he never felt the like, so as without all fear he conversed with him, and as he came, so would he go away again, never returning to him empty, but bringing some one gift or other, such as his nature and kinde could lay hold on.

Ælianus.

There was a Dragon also which loved *Pindus* the son of *Macedo* King of *Emathia* : This *Pindus* having many Brothers most wicked and lewd persons, and he only being a valiant man of honest disposition, having likewise a comely and goodly personage, understanding the treachery of his Brethren against him, bethought himself how to avoid their hands and tyranny. Now forasmuch as he knew that the Kingdom which he possessed, was the only mark they all shot at, he thought it better to leave that to them, and so to rid himself from envy, fear, and peril, then to embrew his hand in their blood, or to lose his life and Kingdom both together. Wherefore he renounced and gave over the government, and betook himself to the exercise of hunting, for he was a strong man, fit to combat with wilde Beasts, by destruction of whom, he made more room for many men upon the earth, so that he passed all his days in that exercise. It hapned on a day that he was hunting of a Hind-calf, and spurring his Horse with all his might and main in the eager persuit thereof, he rode out of the sight of all his company, and suddenly the Hind-calf leaped into a very deep Cave, out of the sight of *Pindus* the Hunter, and so saved himself. Then he alighted from his Horse, and tyed him to the next Tree, seeking out as diligently as he could for a way into the Cave, whereinto the Hind-calf had leaped : and when he had looked a good while about him, and could finde none, he heard a voyce speaking unto him, and forbidding him to touch the Hind-calf, which made him look about again, to see if he could perceive the person from whom the voyce proceeded, but espying none, he grew to be afraid, and thought that the voyce proceeded from some other greater cause, and so leaped upon his Horse hastily, and departed again to his fellows. The day after he returned to the same place, and when he came thither, being terrified with the remembrance of the former voyce, he durst not enter into the place, but stood there doubting and wondering with himself, what Shepherds or Hunters, or other men might be in that place to diswarn him from his game, and therefore he went round about to seek for some, or to learn from whence the voyce proceeded. While he was thus seeking, there appeared unto him a Dragon of a great stature, creeping upon the greatest part of his body, except his neck and head lifted up a little, and that little was as high as the stature of any man can reach, and in this fashion he made toward *Pindus*, who at the first sight was not a little afraid of him, but yet did not run away, but rather gathering his wits together, remembered that he had about him Birds, and divers parts of Sacrifices, which instantly he gave unto the Dragon, and so mitigated his fury by these gifts, and as it were with a royal feast, changed the cruel nature of the Dragon into kinde usage. For the Dragon being smoothed over with these

these gifts, & as it were overtaken with the liberality of *Pindus*, was contented to forsake the old place of his habitation, and to go away with him. *Pindus* also being no less glad of the company of the Dragon, did daily give unto him the greatest part of his hunting, as a deserved price and ransom of his life, and conquest of such a Beast. Neither was he unrequited for it, for Fortune so favoured his game, that whether he hunted fowls of the air, or beasts of the earth, he still obtained and never missed. So that his fame for hunting procured him more love and honor, then ever could the Imperial Crown of his Country. For all young men desired to follow him, admiring his goodly personage and strength, the Virgins and Maids falling in love, contended among themselves who should marry him: the wives forsaking their husbands, contrary to all womanly modesty, rather desired his company then the society of their husbands, or to be preferred among the number of the Goddesses. Only his Brethren enraged against him, sought all means to kill and destroy him. Therefore they watched all opportunities, lying in continual ambush where he hunted to accomplish their accursed enterprise, which at last they obtained: for as he followed the game, they enclosed him in a narrow straight neer to a Rivers side, where he had no means to avoid their hands, they and their company being many, and he alone, wherefore they drew out their swords and slew him. When he saw no remedy but death, he cryed out aloud for help, whose voyce soon came to the ears of the watchful Dragon, (for no Beast heareth or seeth better) out he cometh from his den, and finding the murderers standing about the dead body, he presently surprized and killed them, so revenging the quarrel of *Pindus*, and then fell upon the dead body of his friend, never forsaking the custody thereof, until the neighbours adjoyning to the place, taking knowledge of the fact, came to bury the bodies. But when they came and saw the Dragon among them, they were afraid, and durst not come neer, but stood afar off, consulting what to do; till at last they perceived that the Dragon began to take knowledge of their fear, who with an admirable curtesie of nature, perceiving their mourning and lamentation for their dead friend, and withall, their abstinence from approaching to execute his exequies, or funerals, began to think that he might be the cause of this their terror, and far standing off from the dead bodies, wherefore he departed, taking his farewell of the body which he loved, and so gave them leave by his absence, to bestow upon him an honourable burial, which they performed accordingly, and the River adjoyning, was named by the name of *Pindus-death*.

By which story may appear, that these savage Dragons are made loving and tame to men, by good turns and benefits bestowed upon them, for there is no nature which may not be overcome by kindness. And yet I may not leave this matter thus, nor from these two examples alone, conclude the practise and possibility of love betwixt Men and Dragons: I will therefore add some three or four examples more.

There was a Dragon the lover of *Aetholis* (as *Plutarch* writeth) who came unto her every night, and did her body no harm, but gently sliding over her, played with her till morning, then also would he depart away as soon as light appeared, that he might not be espied. The Maidens friends came to the knowledge hereof, and so removed her far away, to the intent the Dragon might come no more at her: and thus they remained asunder a great while, the Dragon earnestly seeking for the Maiden, wandered far and neer to finde her out. At last he met with her, and not saluting her gently as he was wont, flew upon her, binding her hands down with the spire of his body, hissing softly in her face, and beating gently with his tail her back-parts, as it were taking a moderate revenge upon her, for the neglect of his love by her long absence.

Gilius.

Another like story unto this is reported by *Aelianus*, of a great Dragon which loved a fair Woman, beloved also of a fair Man, the Woman oftentimes did sleep with this Dragon, but not so willingly as with the Man: wherefore she forsook the habitation of her place for a month, and went away where the Dragon could not find her, thinking that her absence might quench his desire. But he came often to the place where he was wont to meet with the woman, and not finding her, returned quietly back again, and came again another time: at last he grew suspicious, and like a lover failing in his expectation, grew very sorrowful, and so continued till the month was expired, every night visiting the accustomed place. At last the woman returned, and the Dragon presently met with her, and in an amorous fashion, full of suspicion and jealousy, winding about her body, did beat her as you have heard in the former story: and this (saith *Aelianus*) happened in *Judea*, in the days of *Herod* the King.

There was a little Dragon-whelp bred in *Arcadia*, and brought up familiarly with a little boy from his infancy, until the Boy became a young Man, and the Dragon also became of great stature, so that one of them loved another so well as Man and Beast could love together, or rather two playfellows from the Cradle. At last the friends of the Boy seeing the Dragon grow so great in so short a space, began to be suspicious of him; whereupon they took the bed wherein the Boy and the Dragon were lodged, and carryed the same into a far remote place of Woods and Wildernesse, and there set down the bed with the Boy and the Dragon together. The boy after a little while returned, and came home again to his friends; the Dragon wandered up and down in the Woods, feeding upon herbs and poyson, according to his nature, and never more cared for the habitation of men, but rested contented with a solitary life. In the length of time it came to passe that the boy grew to be a perfect man, and the Dragon also remained in the Wood, and although absent one from the other, yet mutually loving as well as ever. It hapned that this young man travelled through that place where the Dragon was lodged, and fell among thieves, when the young man saw their swords about his ears,

he cryed out, and the Dragons den being not far off, his cry came to the Dragons ears, who instantly knowing the voyce of his play-fellow, answered the same with another, at whose hissing the thieves grew afraid, and began to run away, but their legs could not carry them so fast, as to escape the Dragons teeth and claws; for he came speedily to release his friend, and all the thieves that he could find, he put to cruel death, then did he accompany his friend out of the place of peril, and returned back again to his den, neither remembering wrath, for that he was exposed to the Wildernesse, and there left by his play-fellow, nor yet like perverse men, forsaking their old friend in danger.

Suetonius.

They that desire to read more of this subject, shall finde store of examples in *Aelianus* his sixt and thirteen Books. To conclude, when *Messalina* the wife of *Claudius*, did send certain men to take away the life of *Nero*, who was a rival of *Britannicus*; it is said that when they had him in their hands to strangle him, a Dragon appeared out of the earth, or floor of the chamber, and did so terrifie these hangmen, that they ran away and spared *Neroes* life. By which example, another example of piety in Dragons is observed.

Again, *Telephus* ignorantly lying with his mother, had committed incest with her, had not a Dragon by divine providence come and parted them asunder: therefore *Draconi similia est virtus indagatrix, quæ diligenter omnia perscrutatur, rimaturque; studiosissime*, the vertue of discretion or perfect knowledge, is like a Dragon, which diligently searcheth all things, and studiously looketh into every chink: so did this Dragon preserve the chastity of the mother and the son, when they ignorantly and in the dark had defiled each other, but for his appearance and demonstration. I will add but this one example more of their love of chastity in men and women.

In *Lavinium* there was a great holy Wood, neer unto which stood a Temple of *Juno*, in that wood there was a great deep den of a Dragon, unto the which Dragon the Virgins came every year being blinde-folded with clowts, and carrying Marchpanes in their hands: When they entred the Wood, there was a certain spirit (as it was said) without offence did lead them to the den of the Dragon, and so every one of the Virgins did severally offer up their Marchpanes to the Dragon: the Dragon received the Marchpane at the hand of every pure Virgin and unspotted, but if they were defiled, and held only the name of Virgins, then the Dragon refused the Marchpane, and therefore they were all examined at their coming forth, that those which had lost their Virginity might be punished by the Law. And by this story, (although none but Heathens will believe it to be true, because it is a fable merely invented to defend Idolatry, which with my soul and spirit I do detest) yet I may collect thus much as a moral out of a fable, that Dragons in ancient time did honor Virginity. And thus seeing they neither love, nor are beloved of any other creature, I will here leave to talk of their love and friendship, and passe on to their hatred and adversaries.

The examples before expressed being all extraordinary and beside nature, do not conclude, but that there is an ordinary hatred betwixt Men and Dragons, and therefore in the discourse of their enemies, Men must have the first place, as their most worthy adversary, for both Dragons have perished by Men, and Men by Dragons, as may appear by these stories following. When the Region of *Helvetia* began first to be purged from noysome Beasts, there was a horrible Dragon found neer a Countrey Town called *Wilser*, who did destroy all men and beasts that came within his danger in the time of his hunger, inso much that that Town and the fields there to adjoyning, was called *Dedwiler*, that is, a Village of the Wildernesse, for all the people and Inhabitants had forsaken the same, and fled to other places.

Stumpfius.

There was a man of that Town whose name was *Winckelriedt*, who was banished for man-slaughter, this man promised if he might have his pardon, and be restored again to his former Inheritance, that he would combat with that Dragon, and by Gods help destroy him: which thing was granted unto him with great joyfulness. Wherefore he was recalled home, and in the presence of many people went forth to fight with the Dragon, whom he slew and overcame, whereat for joy he lifted up his sword imbrued in the Dragons blood, in token of victory, but the blood distilled down from his sword upon his body, and caused him instantly to fall down dead. And thus this noble Conqueror, a man worthy to be remembered in all ages and Nations, who had strength to kill the Dragon being alive, yet had no power to resist the venom of his blood, he being dead. But had it not been that his hand had been before imbrewed in the blood of a man, I do not believe that the blood of a Dragon could have fallen so heavy upon him. But this is the judgement of GOD, either to punish murder in the same kinde, or also to teach us, that we should not rejoyce in our own merits, lest God see it and be angry. For our Saviour Christ forbade his Disciples that they should rejoyce that the Devils were subject to them; and therefore much lesse may we poor creatures rejoyce for overcoming men or beasts.

Aristotle.

And yet one thing more is to be considered in the death of this man, who was banished for killing a man, and was pardoned for killing a Dragon, and yet killed by the Dragon after the Dragon was slain. Thus blood was the sin because it brought death, & death again brought blood to be the revenger of the first, that the blood of man might be washed away with the blood of man, and the blood of a Serpent coming betwixt. And thus I may truly say as the Christian Poet saith in another case, *Sanguine succrevit, sanguine finis erit*, as it grew, so shall it end in blood.

In the days of *Philip* King of *Macedon*, there was a way into a Mountain of *Armenia*, over which the King had prayed, that never man might go but he might die: wherefore *Socrates*, to try the effect of the Kings prayer, set his Optick Philosophical glasse that he might see what was in

in that way, and presently he perceived two great Dragons, who coming out of their dens, did infect the air thereabouts with a pestilent evaporation of their own breath. This he declared to the King, who for the revocation of his own prayer, armed divers men to go out against them and kill them: who likewise performed the same, and so cleared the way from that annoyance. And thus we see another story of Dragons slain by men.

Hereunto may be added, how *Hercules*, when he was a childe in his cradle, slew two Dragons, as *Pindarus* relateth. And the *Corcyreans* did worship *Diomedes* for killing of a Dragon. *Donatus* a holy Bishop in *Germany*, finding a Dragon to lie secretly hid beside a bridge, killing Men, Oxen, Horse, Sheep, and Goats, he came boldly unto him in the name of Christ, and when the Dragon opened his mouth to devour him, the holy Bishop spitting into his mouth killed him.

When *Orpheus* was in hawking, and while he intended his sport, suddenly a Dragon set upon him, but his hawking Spaniels or Dogs released him of that Danger, for they tore the Dragon in pieces. Many such other stories I could relate, but I spare them here, because I have handled them in the beginning of this story: and so I passe over the slaughter of Dragons by Men, and come to the slaughter of Men by Dragons, which are briefly these that follow.

Petrus Damianus declareth of a certain husband-man, who rising early in the morning, and travelling by the way side, saw a great Dragon lie still upon the earth without motion, he being weary, thought him to be a trunk of some tree, wherefore he sat down upon him, & the beast endured him a little while, but at the last he turned his head in anger, and swallowed him up. After that the *Grecians* fained as though they would go away from *Troy*, and *Sinon* the Traytor was received by the *Trojans* into the City, there were two Dragons which slew the sons of *Laocoon* as they landed in the Island *Porcy*, *Caribee*, and *Chalidne*, which is thus described by *Virgil*;

*At gemini lapsu delubra ad summa Dracones
Effugiant, sequeq; petunt Tritonidos arcem,
Sub pedibusque Dea clypeique sub orbe teguntur:
Tum verò tremefacta novus per pectora cunctis*

*Insinuat pavor, & scelus expendisse merentem
Laocoonia ferunt, sacrum qui cuspide robor
Laeserit, &c.*

Which may be Englished thus;

*Two Dragons slide, and to the top of Temple flie,
Making their way unto the fort of Tritons feirce,
Under the Goddesses feet and shield, in circle down they lie,
What fear did mortal breast possesse then cannot I rehearse:
For then Laocoon did begin to think on's former sin,
When he did harm the sacred thing by thrusting spear within.*

About the Temple of *Jupiter Nemus*, there is a Grove of Cypress trees, among which there is a place wherein a Dragon did destroy *Opheltes*, when he was laid under a green bush by his Nurse. There is a proverb, *Bonos viros vel à mure morderi, malis ne Draconem dentes audere admoliri*: that is to say, every Mouse will bite a good man, but evill men are not touched with the teeth of Dragons.

Alciatus hath a pretty Emblem, whose title is, *Ex arduis perpetuum nomen*, from difficult things and great labours, ariseth immortal fame: wherein he pictureth a Dragon following young Sparrows to take and eat them. His verses in *Latine* are these:

Crediderat platani ramis sua pignora passer.

Et bene, ni sevo visa Dracone forent.

Clutii hic pullos omnes, miseramq; parentem

Saxeus & tali dignus obire nece.

Hac nisi mentitur Chalcas, monumenta laboris

Sunt longi, cujus fama perennis eat.

Which may be thus Englished;

To Plantain-leaves the Sparrow did her young commit,

And safe enough, had not the Dragon them espied,

He eat the young ones all, the dam with sons destroyd,

Well worthy such a death, of life to be denyed;

This is by Chalcas said, a type of labour long,

Whose fame eternal lives in every tongue.

There be certain beasts called *Dracontopides*, very great and potent Serpents, whose faces are like to the faces of Virgins, and the residue of their body like to Dragons. It is thought that such a one was the Serpent that deceived *Eve*, for *Beda* saith, it had a Virgins countenance, and therefore the woman seeing the likenesse of her own face, was the more easily drawn to believe it: into the which when the Devil had entred, they say he taught it to cover the body with leaves, and to shew nothing but the head and face. But this fable is not worthy to be refuted, because the Scripture it self doth directly gainsay every part of it. For first of all it is called a Serpent, and if it had been a Dragon, *Moses* would have said so, and therefore for ordinary punishment, God doth appoint it to creep upon the belly, wherefore it is not likely that it had either wings or feet. Secondly, it was impossible and unlikely, that any part of the body was covered or concealed from the sight of the woman, seeing she knew it directly to be a Serpent, as afterward she confessed before GOD and her husband.

There be also certain little Dragons called in *Arabia*, *Vesga*, and in *Catalonia*, Dragons of houses, these when they bite, leave their teeth behinde them, so as the wound never ceaseth swelling as long as the teeth remain therein, and therefore for the better cure thereof, the teeth are drawn forth, and so the wound will soon be healed. And thus much for the hatred betwixt Men and Dragons, now we will proceed to other creatures.

The greatest discord is betwixt the Eagle and the Dragon, for the Vultures, Eagles, Swans and Dragons, are enemies one to another. The Eagles when they shake their wings, make the Dragons afraid with their rattling noise, then the Dragon hideth himself within his den, so that he never fighteth but in the air, either when the Eagle hath taken away his young ones, and he to recover them flyeth aloft after her, or else when the Eagle meeteth him in her nest, destroying her Egges and young ones: for the Eagle devoureth the Dragons and little Serpents upon earth, and the Dragons again and Serpents do the like against the Eagles in the air. Yea many times the Dragon attempteth to take away the prey out of the Eagles talons, both on the ground and in the air, so that there ariseth betwixt them a very hard and dangerous fight, which is in this manner described by Nicander.

*Hunc petit invisum magni Jovis armiger hostem,
Cumque genis parat acre suis ex ethere bellum:
Pascentem in silvis quam primum viderit illum,
Quod totos ferus in nidos cum mitibus ovib;
Et simul ipsa terens, & vastans pignora perdat.
Non timet hoc Serpens, imò quodam impete dumis
Profiliens, ipsamque aquilam, leporemque tenellum*

*Extrahit ex rapidis vi fraudeque fortior uncis.
Cauta malum declinat avis, fit ibi aspera pugna,
Ut queat extortam victor sibi tollere prædam.
Sed frustra elapsam, & volitantem hinc inde volutem
Insequitur, longos sinuum contractus in orbes,
Obliquoque levans sursum sua lumina visu.*

Which may be Englished thus;

*When as the Eagle, Joves great Bird, did see her enemy,
Sharp war in th' air with beak she did prepare
Gainst Serpent feeding in the Wood, after espy
Cause it her Egges and young fiercely in pieces tare.
The Serpent not afraid of this, leaps out of thorns
With force upon the Eagle, holding tender Hare,
Out of her talons by fraud and force more strong,
That takes and snatches despite her enemies fear.
But wary Bird avoids the force, and so they fight again,
That Victor one of them might joy the prey alone,
The flying fowl by winding Snake is hunted all in vain,
Though up and down his nimble eyes this and that way be gone.*

In the next place we are to consider the enmity that is betwixt Dragons and Elephants, for so great is their hatred one to the other, that in *Aethiopia* the greatest Dragons have no other name but Elephant-killers. Among the *Indians* also the same hatred remaineth, against whom the Dragons have many subtle inventions: for besides the great length of their bodies, wherewithall they claspe and begirt the body of the Elephant, continually biting of him until he fall down dead, and in the which fall they are also bruised to pieces; for the safeguard of themselves they have this device. they get and hide themselves in trees, covering their head, and letting the other part hang down like a rope: in those trees they watch until the Elephant come to eat and crop of the branches, then suddenly before he be aware, they leap into his face, and dig out his eyes, then do they clasp themselves about his neck, and with their tails or hinder-parts, beat and vex the Elephant, until they have made him breathlesse, for they strangle him with their fore-parts, as they beat them with the hinder, so that in this combat they both perish: and this is the disposition of the Dragon, that he never setteth upon the Elephant, but with the advantage of the place, and namely from some high tree or rock.

Sometimes again a multitude of Dragons do together observe the paths of the Elephants, & cross those paths they tie together their tails as it were in knots, so that when the Elephant cometh along in them, they insnare his legs, and suddenly leap up to his eyes, for that is the part they aim at above all other, which they speedily pull out, and so not being able to do him any harm, the poor beast delivereth himself from present death by his own strength, and yet through his blindness received in that combat, he perisheth by hunger, because he cannot choose his meat by smelling, but by his eye-sight.

There is no man living that is able to give a sufficient reason of this contrariety in nature betwixt the Elephant and the Dragon, although many men have laboured their wits, and strained their inventions to finde out the true causes thereof, but all in vain, except this be one that followeth. The Elephants blood is said to be the coldest of all other Beasts, and for this cause it is thought by most Writers, that the Dragons in the Summer time do hide themselves in great plenty in the waters where the Elephant cometh to drink, and then suddenly they leap up upon his ears, because those places cannot be defended with his trunk, and there they hang fast, and suck out all the blood of his body, until such a time as he poor beast through faintnesse fall down and die, and they being drunk with his blood, do likewise perish in the fall.

The Gryffins are likewise said to fight with the Dragons and overcome them. The Panther also is an enemy unto the Dragons, and driveth them many times into their dens. There is a little Bird called *Captilus*, by eating of which the Dragon refresheth himself when he is wearied in hunting of other beasts. And to conclude, he is an enemy unto all kinde of beasts, both wilde and tame, as may appear by these verses of *Lucan*, where he saith.

— Amen.

*Armenta; tota secuti,
Rumpitis ingentes amplexi verberare Tauros:
Nec tutus spacio est Elephas.*

Which may be Englished thus;

*And following close the Herds in field,
Great Bulls with force of might,
And Elephants are made to yeeld
By Dragons valiant sprite.*

In the next place I will passe unto the poyson and venom of Dragons, omitting all Poetical discourses about the worshipping and transmutation of Dragons from one kinde to another, such as are the hairs of *Orpheus*, or the teeth of the Dragon which *Cadmus* slew, into armed men, and such like fables, which have no shew nor appearance of truth, but are only the inventions of men, to utter those things in obscure terms, which they were afraid to do in plain speeches.

It is a question whether Dragons have any venom or poyson in them, for it is thought that he hurteth more by the wound of his teeth, then by his poyson. Yet in *Deut. 22. Moses* speaketh of them as if they had poyson, saying: Their Wine is as the poyson of Dragons, and the cruel venom of Asps. So also *Heliodorus* speaketh of certain weapons dipped in the poyson of Dragons. For which cause we are to consider, that they wanting poyson in themselves, become venomous two manner of ways: First by the place wherein they live, for in the hotter Countries they are more apt to do harm then in the colder and more temperate, which caused the Poet in his verses to write of them in this manner following;

*Vos quoq; qui cunctis innoxia numina terris
Serpitis aurato nitidi fulgore Dracones,
Pestiferos ardens facit Africa: Ducitis alium
Aera cum pennis, &c.*

Which may be Englished in this manner;

*You shining Dragons creeping on the earth,
Which fiery Africk yeelds with skin like gold,
Yet pestilent by hot infecting breath,
Mounted with wings in t' air we do behold.*

So that which is spoken of the poyson of Dragons infecting the air wherein they live, is to be understood of the Meteor called *Draco-volans*, a Fire-drake, which doth many times destroy the fruits of the earth, seeming to be a certain burning fire in the air, sometime on the Sea, & sometime on the land, whereof I have heard this credible story from men of good worth and reputation, happening about some twelve years ago, upon the Western Seas, upon the Coasts of *England*, which because it is well worthy to be kept in remembrance of all posterity, and containeth in it a notable work of God, I have thought good to set it down in this place.

There was an old Fisher-man, which with his two hired servants went forth to take fish, according to his accustomed manner and occupation, and having laid their nets, watched them earnestly to finde the booty they came for, and so they continued in their labour untill mid-night or thereabouts, taking nothing. At last there came by them a Fire-drake, at the sight whereof the old man began to be much troubled and afraid, telling his servants, that those sights seldom portended any good, and therefore prayed God to turn away all evill from them, and withall, willed his servants to take up their Nets, lest they did all repent it afterward; for he said he had known much evill follow such apparitions. The young men his servants comforted him, telling him that there was no cause of fear, and that they had already committed themselves into the hands of Almighty GOD, under whose protection they would tarry untill they had taken some fish: the old man rested contented with their confidence, and rather yeelded unto them, then was perswaded by them. A little while after the Fire-drake came again, and compassed round about the Boat, and ran over the Nets, so that new fears, and more violent passions then before possessed both the old man and his servants. Wherefore they then resolved to tarry no longer, but hastened to take up their Nets and be gone. And taking up their Nets, at one place they did hang so fast, as without breaking they could not pull them out of the water, wherefore they set their Grab-hooks unto them to loose them; for the day before they remembered that a Ship was cast away in the same place, and therefore they thought that it might be the Nets were hanged upon some of the tacklings thereof: and therein they were not much deceived, for it happened that finding the place whereupon the Net did stay, they pulled and found some difficulty to remove it, but at last they pulled it up, and found it to be a chair of beaten gold. At the sight hereof their spirits were a little revived, because they had attained so rich a booty, and yet like men burdened with wealth, (especially the old man,) conceived new fears, and wished he were on land, lest some storm should fall, and lay both it and them the second time in the bottom of the Sea.

So great is the impression of fear, and the natural presage of evill, in men that know but little in things to come, that many times they prove true Prophets of their own destruction, although they

they have little reason till the moment of perill come upon them: and so it fell out accordingly in this old man; for whilest he feared death by storms and tempests on the Sea, it came upon him, but by another way and means. For behold the Devill entred into the hearts of his two servants, and they conspired together to kill the old man their Master, that so between themselves they might be owners of that great rich chair, the value whereof (as they conceived) might make them Gentlemen, and maintain them in some other Countrey all the days of their life. For such was the resolution that they conceived upon the present, that it would not be safe for them to return home again after the fact committed, lest they should be apprehended for murder, as they justly deserved, their Master being so made away by them.

The Devill that had put this wicked motion into their mindes, gave them likewise present opportunity to put the same in execution, depriving them of all grace, pity, and piety, still thrusting them forward to perform the same. So that not giving him any warning of his death, one of them in most savage and cruel manner dashed out his brains, and the other speedily cast him into the Sea. And thus the fear of this old man, conceived without all reason, except superstition for the sight of a Fiery-drake, came upon him in a more bloody manner then he expected: but life suspected it self, and rumors of peril unto guilty consciences, (such as all we mortal men bear) are many times as forcible as the sentence of a Judge to the heart of the condemned prisoner; and therefore it were happy that either we could not fear, except when the causes are certain, or else that we might never perish but upon premonition. And therefore I conclude with the example of this man, that it is not good to hold a superstitious fear, lest God see it, and being angry therewith, bring upon us the evil which we fear. But this is not the end of the story, for that Fire-drake, (as by the sequel appeareth) proved as evill to the servants as he did to the Master.

These two sons of the Devill, made thus rich by the death of their Master, forthwith they failed towards the Coast of France, but first of all they broke the Chair in pieces, and wrapped it up in one of their Nets, making account that it was the best fish that ever was taken in that Net, and so they laid it in one end of their Bark or Fisher-boat. And thus they laboured all that night and the next day, till three or four of the clock, at what time they espyed a Port of Britain, whereof they were exceeding glad, by reason that they were weary, hungry, and thirsty with long labour, always rich in their own conceit by the gold which they had gotten, which had so drawn their hearts from God, as they could not fear any thought of his judgement; And finally it so blinded their eyes, and stopped their ears, that they did not see the vengeance that followed them, nor hear the cry of their Masters blood. Wherefore, as they were thus rejoycing at the sight of land, behold they suddenly espyed a Man of War coming towards them, whereat they were appalled, and began to think with themselves that their rich hopes were now at an end, and they had laboured for other, but yet resolved to die rather then to suffer the booty to be taken away from them. And while they thus thought, the Man of War approached and hailed them, summoning them to come in and shew what they were: they refused, making forward as fast to the Land as they could. Wherefore the Man of War shot certain Muskets at them, and not prevailing, nor they yielding, sent after them his Long-boat, upon the entrance thereof they fought manfully against the assaylants, until one of them was slain, and the other mortally wounded; who seeing his fellow kill'd, and himself not likely to live, yet in envy against his enemy, ran presently to the place where the Chair lay in the Net, and lifting the same up with all his might, cast it from him into the Sea, instantly falling down after that fact, as one not able through weaknesse to stand any longer: whereupon he was taken and before his life left him he related the whole story to them that took him, earnestly desiring them to signifie so much into England, which they did accordingly: and as I have heard, the whole story was printed, and so this second History of the punishment of murder, I have related in this place, by occasion of the Fiery-drake, in the History of the Dragon.

A second cause why poyson is supposed to be in Dragons, is for that they often feed upon many venomous roots, and therefore their poyson sticketh in their teeth, whereupon many times the party bitten by them, seemeth to be poysoned; but this falleth out accidentally, not from the nature of the Dragon, but from the nature of the meat which the Dragon eateth. And this is it which Homer knew and affirmed in his verses, when he described a Dragon making his den neer unto the place where many venomous roots and herbs grew, and by eating whereof he greatly annoyeth mankind when he biteth them.

*Os de Drakoon espi Xein oresteros andra meneft
Bebrocos kaka pharmaka.*

Which may be thus Englished,

*And the Dragon which by men remains,
Eats evill herbs without deadly pains.*

And therefore *Aelianus* saith well, that when the Dragon meaneth to do most harm to men, he eateth deadly poysonful herbs, so that if he bite after them, many not knowing the cause of the poyson, and seeing or feeling venom by it, do attribute that to his nature which doth proceed from his meat. Besides his teeth which bite deep; he also killeth with his tail, for he will so begirt and pinch in the body, that he doth gripe it to death, and also the strokes of it are so strong, that either they kill thereby forthwith, or else wound greatly with the same, so that

*Vincensius.
Solinus.*

that the strokes of his tail, are more deadly then the biting of his teeth; which caused *Niander* to write thus;

*Nec tamen ille graves, ut cetera turba, dolores
Si velit, infixo cum forte momorderit ore,
Suscitat: exiguus non noxia vulnera punctus*

*(Qui ceu rodentes noctu quaque obvia muris)
Infligit, modicum tenuis dat plaga cruorem.*

Which may be thus Englished;

Nor yet he when with his angry mouth
Doth bite, such pains and torments bringeth
As other Serpents, if Ancients tell the truth,
When with his teeth and spear he stingeth:

For as the holes which biting Mice do leave,
When in the night they light upon a prey,
So small are Dragons-bites which men receive,
And harmlesse wound makes blood to run away.

Their mouth is small, and by reason thereof they cannot open it wide to bite deep, so as their biting maketh no great pain; and those kinde of Dragons which do principally fight with Eagles, are defended more with their tails then with their teeth: but yet there are some other kinde of Dragons, whose teeth are like the teeth of Bears, biting deep, and opening their mouth wide, wherewith all they break bones, and make many bruises in the body, and the males of this kinde bite deeper then the females, yet there followeth no great pain upon the wound.

The cure hereof is like to the cure for the biting of any other Beast wherein there is no venom, and for this cause there must be nothing applyed thereunto which cureth venomous bitings, but rather such things as are ordinary in the cure of every Ulcer.

The seed of grasse, commonly called Hay-dust, is prescribed against the biting of Dragons. The Barble being rubbed upon the place where a Scorpion of the earth, a Spider, a Sea or Land-dragon biteth, doth perfectly cure the same. Also the head of a Dog or Dragon which hath bitten any one, being cut off and flayed, and applyed to the wound with a little *Euphorbium*, is said to cure the wound speedily.

And if *Albedismon* be the same that is a Dragon, then according to the opinion of *Avicen*, the cure of it must be very present, as in the cure of Ulcers. And if *Albatraf* and *Haudem* be of the kinde of Dragons, then after their biting there follow great coldnesse and stupidity; and the cure thereof must be the same means which is observed in cold poysons. For which cause the wound or place bitten, must be embrewed or washed with luke-warm Vinegar, and emplaistered with the leaves of Bay, anointed with the Oyl of herb *Mary*, and the Oyl of Wilde-pellitory, or such things as are drawn out of those Oyls, wherein is the vertue of Nettles, or Sea-onions.

But those things which are given unto the patient to drink, must be the juyce of Bay-leaves in Vinegar, or else equall portions of Myrrhe, Pepper, and Rew in Wine, the powder or dust whereof must be the full weight of a golden groat, or as we say a *French Crown*.

In the next place, for the conclusion of the History of the Dragon, we will take our farewell of him in the recital of his medicinal vertues, which are briefly these that follow.

First, the fat of a Dragon dryed in the Sun, is good against creeping Ulcers: and the same mingled with Honey and Oyl, helpeth the dimnesse of the eyes at the beginning. The head of a Dragon keepeth one from looking asquint: and if it be set up at the gates and dores, it hath been thought in ancient time to be very fortunate to the sincere worshippers of GOD. The eyes being kept till they be stale, and afterwards beat into an Oyl with Honey made into Ointment, keep any one that useth it from the terrour of night-visions and apparitions.

The fat of a Hart in the skin of a Roe, bound with the nerves of a Hart unto the shoulder, was thought to have a vertue to fore-shew the judgement of victories to come. The first spindle by bearing of it, procureth an easie passage for the pacification of higher powers. His teeth bound unto the feet of a Roe, with the nerves of a Hart, have the same power. But of all other, there is no folly comparable to the composition which the Magitians draw out of a Dragon to make one invincible, and that is this: They take the head and tail of a Dragon, with the hairs out of the fore-head of a Lyon, and the marrow of a Lyon; the spume or white mouth of a conquering Horse, bound up in a Harts skin, together with a claw of a Dog, and fastned with the crosse nerves or sinew of a Hart, or of a Roe; they say that this hath as much power to make one invincible, as hath any medicine or remedy whatsoever.

The fat of Dragons is of such vertue that it driveth away venomous beasts. It is also reported, that by the tongue or gall of a Dragon sod in Wine, men are delivered from the spirits of the night, called *Incubi* and *Succubi*, or else Night-mares. But above all other parts, the use of their blood is accounted most notable. But whether the *Cinnabaris* be the same which is made of the blood of the Dragons and Elephants, collected from the earth when the Dragon and Elephant fall down dead together, according as *Pliny* delivereth, I will not here dispute, seeing it is already done in the story of the Elephant: neither will I write any more of this matter in this place, but only refer the Reader unto that which he shall finde written thereof in the History of our former Book of Four-footed Beasts.

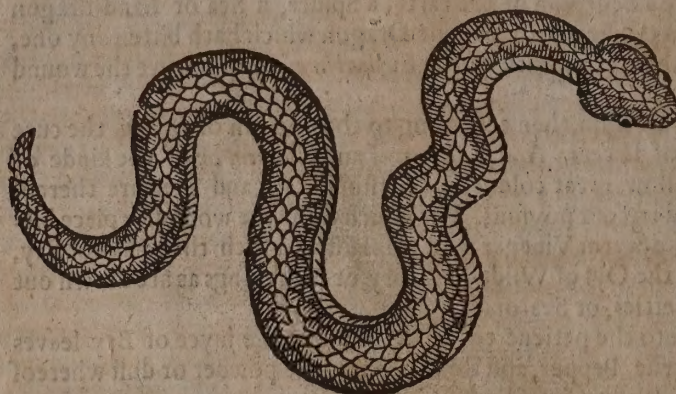
And if that satisfie him not, let him read *Langius* in the first book of his Epistles, and sixty five Epistle, where that learned man doth abundantly satisfie all men concerning this question, that are studious of the truth, and not prone to contention. And to conclude, *Andreas Balvacensis* writeth, that the Bloud-stone called the *Hematite*, is made of the Dragons blood: and thus I will conclude

clude the History of the Dragon, with this story following out of *Porphyrius*, concerning the good successe which hath been signified unto men and women, either by the dreams or sight of Dragons.

Mamea the Mother of *Alexander Severus* the Emperor, the night before his birth, dreamed that she brought forth a little Dragon, so also did *Olympia* the Mother of *Alexander* the Great, and *Pomponia* the Mother of *Scipio Africanus*. The like prodigy gave *Augustus* hope that he should be Emperor. For when his Mother *Aetia* came in the night time unto the Temple of *Apollo*, and had set down her bed or couch in the Temple among other Matrons, suddenly she fell asleep, and in her sleep she dreamed that a Dragon came to her, and clasped about her body, and so departed without doing her any harm. Afterwards the print of a Dragon remained perpetually upon her belly, so as she never durst any more be seen in any bath.

The Emperor *Tiberius Caesar*, had a Dragon which he daily fed with his own hands, and nourished like good fortune, at the last it happened that this Dragon was defaced with the biting of Emmets, and the former beauty of his body much obscured: Wherefore the Emperor grew greatly amazed thereat, and demanding a reason thereof of the Wisemen, he was by them admonished to beware the insurrection of the common people. And thus with these stories representing good and evill by the Dragon, I will take my leave of this good and evill Serpent.

of the DRYINE.



There be some that confound this Serpent with the Water-snake, and say it is none other then that which of ancient time was called *Hydrus*, for so long as they live in the water, they are called *Hydri*, that is, Snakes of the water, but when once they come to the land, they are called *Chelidri*, and *Chersydri*: but it is certain that the *Chelidrus*, is different from the *Chersydus*, by the strong smell and savour which it carryeth with it wheresoever it goeth, according to these verses made of *Umbo* the Priest in *Virgil*.

*Viperio generi & graviter spirantibus Hydri,
Spargere qui somnos cantuq; manuq; solebat.*

Which may be Englished thus;

*Who could by song and hand bring into deadly sleep
All kinde of Vipers, with Snakes smelling strong and deep.*

Which being compared with that instruction which he giveth to Shepherds, teaching them how to drive away the strong smelling Serpents from the folds, he calleth them *Chelydri*, when he writeth in this manner;

*Disce & odoratam stabulis accendere Cedrum,
Galbanioq; agitare graves nidore Chelydros.*

That is to say in English thus;

*Learn how to drive away strong smelling Chelyders
From folds, by Galbanum and savoury Cedars.*

So that it is clear that these Dryines are the same which are called *Chelydri*, who do stink on the face of the earth, whereby they are oftentimes disclosed although they be not seen: howbeit, some think that this filthy savour doth not proceed from any fume or smoak coming out of their bodies, but rather from their motion, according to the opinion of *Macer* in these following verses.

*Seu terga expirant spumantia Virus
Seu terra fumat qua teter labitur Anguis.*

Which may be Englished in this manner;

*Whether their foming backs that smell
Do send abroad such poyson pestilent,
Or whether th' earth whereon this Snake full fell
Doth slide, yeelds that unwholesome sent.*

It is said that these Dryines do live in the bottom or roots of Oaks, where they make their nests, for which cause they be called *Querculi*, as if they were derived from an Oak, which caused the Countrey people to call it *Dendrogailla*, which signifieth the male and female in this kinde: being bred only in one part of *Africk*, and in *Hellepont*, and there be of them two kindes, one of the length of two cubits, being very fat and round, and very sharp scales over the back; and they are called *Druine* of *Dru*, that signifieth an Oak, because they live in bottom of Oaks: and they are also called *Chelydri*, because of their sharp skins or scales, for it is the manner of the *Latines* and the *Grecians*, to call the hard and rough skin of the body of man and beast, by the name of *Chelydra*; and I take the Serpents *Cylndri*, to be the same that the Dryines be. Within the scales of this Serpent there are bred certain Flyes with yellow wings, as yellow as any Brasse, the which Flyes at length do eat and destroy the Serpent that breedeth them. The colour of their back is blackish, and not white as some have thought, and the savour or smell coming from them like to the smell of a Horses hide, wet as it cometh out of the pit, to be shaven by the hand of a Tawyer or Glover. And *Bellonius* writeth, that he never saw any Serpent greater then this Dryine, which he calleth *Dendrogailla*, nor any that hisseth stronger; for he affirmeth, that one of these put into a sack, was more then a strong Countreyman could carry two miles together without setting it down and resting. And likewise he saith, that he saw a skin of one of these stuffed with hair, which did equall in quantity the leg of a great man. The head of this beast is broad and flat, and *Olaus Magnus* writeth, that many times, and in many places of the North, about the beginning of Summer these Serpents are found in great companies under Oaks, one of them being their head or Captain, who is known by a white crest or comb on the top of his crown, whom all the residue do follow, as the Bees do their King and Captain. And these by the relation of old men are thought to beget a certain stone, by their mutable breathing upon some venomous matter, found in the trees leaves, or earth where they abide; For they abide not only in the roots, but in the hollow bodies of the trees, and sometimes for their meat and food, they leave their habitation, and descend into the Fens and Marishes to hunt Frogs: and if at any time they be assaulted with the Horse-flie, they instantly return back again into their former habitation. When they go upon the earth, they go directly or straight, for if they should winde themselves to run, they would make an offensive noise, or rather yeeld a more offensive smell: according to these verses of the Poet *Lucan*;

Actius.

*Natrix & ambigua coleret qui Syrtidos arva
Chersidros, traëtiq; via fumante Chelydri.*

In English thus;

*The Snake which hunt the doubtful Syrtes sands,
And Chelyders by sliding fume on lands.*

Georgius Fabricius writeth, that he saw in the Temple of *Bacchus* at *Rome*, a company of drunken men dancing, leading a male Goat for sacrifice, having Snakes in their mouths, which Snakes *Prudentius* the Christian poet calleth *Chlydri*, that is, Dryines in these verses following;

*Baccho caper omnibus aris
Ceditur, & virides discindunt ore Chelydros,
Qui Bromium placare volunt, quod & ebria jam tum
Ante oculos regis Satyrorum insania fecit.*

In English thus;

*A Goat to Bacchus on every altar lies,
While sacrificers tear Dryines in pieces small
By force of teeth, and that before the eyes
Of Satyres King, mad drunk they fall.*

The nature of this Serpent is very venomous and hot, and therefore it is worthily placed among the first degree or rank of Serpents, for the smell thereof doth so stupifie a man, as it doth near strangle him, for nature refuseth to breath, rather then to draw in such a filthy air. And so pestilent is the nature of this Beast, that it maketh the skin of the body of a man hurt by it, loose, stinking, and rotten, the eyes to be blinde and full of pain, it restraineth the urine, and if it come upon a man sleeping, it causeth often neezing, and maketh to vomit bloody matter. If a man tread upon it unawares, although it neither sting nor bite him, yet it causeth his legs to swell, and his foot to lose the skin thereof: and that which is more strange, it is reported, that when a Physitian cured the hand of one bitten by this Serpent, the skin of his hand also came off, and whosoever killeth one of these, if once he smell the savour of it, whatsoever he smelleth afterwards, he still thinketh it smelleth of the Dryine. And therefore most pestilent must this Serpent needs be, which killeth both touching and smelling.

When it hath wounded or bitten, there followeth a black or red swelling about the sore, also a vehement pain over all the body through the speedy dispersing of the poyson; also *Pustules* or little wheals, madnesse, driness of the body, and intolerable thirst, trembling and mortification of the members wounded, whereof many die. The cure is like to the cure of *Vipers*, and besides

besides it is good to take Hart-wort drunk in Wine, or Trifoly, or the roots of Daffadil. Acorns of all kinde of Oaks, are profitable against this poyson, being beaten to powder and drunk. And thus much shall suffice for this Serpent.

Of the Serpents called ELEPHANTS.

There be also Serpents called Elephants, because whomsoever they bite, they infect with a kinde of leprosie, and I know not whether the Serpent *Elops*, *Elopi*, and *Laphiati* be the same, but because I finde no matter worthy in them to be spoken of, and they are strangers in our Countrey, the Reader must be contented with their bare names without further description.

OF FROGS.



Frogs are called by the Hebrews, *Zab*, *Zephardea*, *Urdeana*, and *Urdea Akruka*, and *Maskar*; by the Arabians, *Hardun*, *Disdab*, *Disphoa*, *Disdapha*, *Altabaul*; by the Grecians, *Batrachos*: whereof cometh the corrupted word *Brackatas*, and *Garazum*. *Lalages* and *Kembroie*, signifieth green Frogs; the Italians and Spaniards call it *Rana*, by the Latine word; the French, *Grenoville*; the Germans, *Frosch*, and *Frosche*, and *Grassfrosch*, for a green Frog. The Flemings, *Urosch*, and *Uruesch*, and *Pivit*; the Illyrians and Polonians, *Zaba*, by a word derived from the Hebrew. It is some question from whence the word *Rana* is derived, and because of much controversie whether it hath received name, because it liveth on the land and in the water, or from the croaking voyce which it useth: I will not trouble the English Reader with that discourse, only I am assured, that the word Frog in English, is derived from the German word *Frosch*, as many other English words are derived besides the common name of many Frogs. Homer in his Comedy of the fight betwixt Frogs and Mice called *Batrachomyomachia*, hath devised many proper names for Frogs, such as these are; *Limnocharis*, Gracediet, Pleus, Dust-liver; *Hydromedusa*, Water-hunter; *Phuignathos*, Nature-cryer; *Hypsibos*, Loud-cryer; *Leuthaios*, Love-liver; *Poluphonos*, great Labourer; *Krambophagos*, Brasil-eater; *Lymnesios*, Pool-keeper; *Kalaminthios*, Mint-eater; *Hydrocharis*, Water-childe; *Borborokites*, Noise-maker; *Prassaphagos*, Grass-eater; *Pelousios*, dust-creeper; *Pelobates*, dust-leaper; *Krawgasides*, drought-hater; *Prassaios*, Grasse-green; and such other like, according to the witty invention of the Author, all which I thought good to name in this place, as belonging to this History.

In the next place we are to consider the diversity and kindes of Frogs, as they are distinguished by the place of their abode: for the greatest difference is drawn from thence; some of them therefore are Water-frogs, and some are Frogs of the land: the Water-frogs live both in the water and on the land, in marshes, standing pools, running streams, and banks of Rivers, but never in the Sea; and therefore *Rana Marina* is to be understood of a Fish, and not a Frog, as *Massarius* hath learnedly proved against *Marcellus*. The Frogs of the land are distinguished by their living in Gardens, in Meadows, in hollow Rocks, and among fruits: all which several differences shall be afterward expressed, with their pictures in their due places: here only I purpose to talk of the vulgar and common Frog, whose picture with her young one is formerly expressed. Beside, these differ in generation: for some of them are engendered by carnal copulation, and of the slime and rotnesse of the earth. Some are of a green colour, and those are eaten in Germany and in Flanders; some again are yellow, and some of an Ash-colour, some spotted, and some black, and in outward form and fashion they resemble a Toad, but yet they are without venom, and the female is always greater then the male: when the Egyptians will signifie an impudent man, and yet one that hath a good quick sight, they picture a Frog, because he liveth continually in the mire, and hath no blood in his body, but about his eyes.

The tongue is proper to this kinde, for the fore-part thereof cleaveth to the mouth, as in a fish, and the hinder part to the throat, by which he sendeth forth his voyce: and this is to be understood, that all Frogs are mute and dum, except the green Frogs, and the Frogs of the water, for these have voyces. And many times the voyces of Frogs proceedeth from the nature of the Countries wherein they

they live : for once all the Frogs in *Macedonia* and *Cyrenia*, were dum, until there were some brought thither out of some other Countries, as at this day the Frogs of *Seriphus* are all dum, whereupon came the Proverb, *Batrachos ec Seriphou*, A Frog of *Seriphus*, because the Frogs of that Countrey do never croak, although you carry them into any other Countrey.

This *Seriphus* is one of the Islands of the *Sporades* in *Greece*, wherein is the lake called *Pierius*, which doth not run in the Summer, but only in the Winter, and all the Frogs which are cast into that lake, are perpetually silent, and never utter their voyce; whereof there are assigned two causes, one fabulous, and the other true and natural. The first, the *Seriphians* say, that when *Perseus* returned with the head of *Medusa*, having gone very far till he was weary, laid him down beside that lake to sleep, but the croaking Frogs made such a noise, as he could take no rest: Whereat *Perseus* was much offended, and therefore prayed *Jupiter* to forbid the Frogs from crying, who instantly heard his prayer, and injoyed perpetual silence to the Frogs in that water: and this is the fabulous reason, being a meer fiction of the Poets.

The second and more true reason is that of *Theophrastus*, who saith, that for the coldnesse of the water, the Frogs are not able to cry in that place. The voyce of Frogs is said by the *Latinists* to be *Coaxare*, and by the *Grecians*, *Ololugon*; peculiar words to set forth this crying: now because their tongue cleaveth to the palat of their mouth, and their voyce proceedeth but from their throat to their mouth, and the spirit is hindered by the tongue, so as it cannot proceed directly; therefore it hath two bladders upon either side of the mouth, one which it filleth with winde, and from thence proceedeth the voyce. Now when it croaketh, it putteth his head out of the water, holding the neather lip even with the water, and the upper lip above the water: and this is the voyce of the male provoking the female to carnal copulation.

They have but very small lungs, and those without bloud, full of froth like to all other creatures of the water, which do lay egges, and for this cause they do never thirst: wherefore also Sea-calves and Frogs are able to live long under the water. They have a double Liver, and a very small milt, their legs behinde are long, which maketh them apt to leap; before they are shorter, having divided claws which are joyned together with a thin broad skin, that maketh them more apt to swim. The most place of their abode is in fens, or in warm waters, or in fish-pools: but yellow and ash-coloured Frogs abide in Rivers, Lakes, and standing Pools, but in the Winter time they all hide themselves in the earth. And therefore it is not true that *Pliny* saith, that in the Winter time they are resolved into slime, and in Summer they resume again their first bodies, for they are to be seen many times in the Winter; especially in those waters that are never frozen, as *Agrecolaana Mathiolus* hath soundly observed, and they have been seen in certain running streams, holding small fishes in their mouths, as it were sucking meat out of them.

Sometimes they enter into their holes in Autumn before Winter, and in the Spring time come out again. When with their croaking voyces the male provoketh the female to carnal copulation, which he performeth not by the mouth (as some have thought) but by covering her back: the instrument of generation meeting in the hinder parts, and this they perform in the night season, nature teaching them the modesty or shamefastnesse of this action: And besides in that time they have more security to give themselves to mutual imbraces, because of a general quietnesse, for men and all other their adversaries are then at sleep and rest. After their copulation in the waters, there appeareth a thick jelly, out of which the young one is found. But the land Frogs are ingendered out of Eggs, of whom we discourse at this present; and therefore they both suffer copulation, lay their Egges and bring forth young ones on the land. When the Egge breaketh or is hatched, there cometh forth a little black thing like a piece of flesh, which the *Latines* call *Gyrini*, from the *Greek* word *Gyrinos*, having no visible part of a living creature upon them, besides their eyes and their tails, and within short space after their feet are formed, and their tail divided into two parts, which tail becometh their hinder-legs: wherefore when the *Egyptians* would describe a man that cannot move himself, and afterwards recovereth his motion, they decipher him by a Frog, having his hinder-legs. The heads of these young *Gyrini*, which we call in *English* Horse-nails; because they resemble a Horse-nail in their similitude, whose head is great, and the other part small, for with his tail he swimmeth. After May they grow to have feet, and if before that time they be taken out of the water, they die, when they begin to have four feet.

And first of all they are of a black colour and round, and hereof came the Proverb, *Rana Gyrina sapientior*, wiser then a Horse-nail; because through the roundnesse and volubility of his body, it turneth it self with wonderful celerity, which way soever it pleaseth. These young ones are also called by the *Grecians*, *Moluride*, *Brutichoi*, and *Batrachide*, but the *Latines* have no name for it, except *Ranunculus*, or *Rana nascentis*. And it is to be remembred, that one Frog layeth an innumerable company of Egges, which cleave together in the water, in the middle whereof she her self lodgeth. And thus much may suffice for the ordinary procreation of Frogs by generation out of Egges. In the next place I must also shew how they are likewise ingendered out of the dust of the earth by warm, active, and Summer showers, whose life is short, and there is no use of them.

Ælianus saith, that as he travailed out of *Italy* into *Naples*, he saw divers Frogs by the way near *Puteoli*, whose fore-part and head did move and creep, but their hinder-part was unformed and like to the slime of the earth, which caused *Ovid* to write thus;

*Semina limus habet virides generantia Ranas,
Et generat truncas pedibus, & eodem corpore saepe
Altera pars vivit, rudis est pars altera tellus.*

That is to say;

*Durt hath his seed ingendring Frogs full green,
Yet so as feeble without legs on earth they lie,
So as a wonder unto passengers is seen,
One part hath life, the other earth full dead is nye.*

And of these Frogs it is that *Pliny* was to be understood, when he saith, that Frogs in the Winter time are resolved into slime, and in the Summer they recover their life and substance again. It is certain also, that sometime it raineth Frogs, as may appear by *Philarchus* and *Lembus*, for *Lembus* writeth thus: Once about *Dardania*, and *Peonia*, it rained Frogs in such plentiful measure, or rather prodigious manner, that all the houses and high ways were filled with them, and the Inhabitants did first of all kill them, but afterwards perceiving no benefit thereby, they shut their doores against them, and stopped up all their lights to exclude them out of their houses, leaving no passage open, so much as a Frog might creep into, and yet notwithstanding all this diligence, their meat seething on the fire, or set on the table, could not be free from them, but continually they found Frogs in it, so as at last they were enforced to forsake that Countrey. It was likewise reported, that certain *Indians* and people of *Arabia*, were enforced to forsake their Countries through the multitude of Frogs.

Cardan seemeth to finde a reason in nature for this raining of Frogs, the which for the better satisfaction of the Reader, I will here expresse as followeth: *Fiunt haec omnia ventorum ira*, and so forward in his 16. Book *De Subtilitate*, that is to say; these prodigious rains of Frogs and Mice, little fishes and stones, and such like things is not to be wondered at: for it cometh to passe by the rage of the windes in the tops of the Mountains, or the uppermost part of the Seas, which many times taketh up the dust of the earth and congealeth them into stones in the air, which afterwards fall down in rain; so also doth it take up Frogs and Fishes, who being above in the air, must needs fall down again. Sometimes also it taketh up the eggs of Frogs and Fishes, which being kept aloft in the air among the whirl-windes, and storms of shewers, do there engender and bring forth young ones, which afterwards fall down upon the earth, there being no pool for them in the air. These and such like reasons are approved among the learned for natural causes of the prodigious raining of Frogs.

But we read in holy Scripture among the plagues of *Egypt*, that Frogs were sent by God to annoy them; and therefore whatsoever is the material cause, it is most certain that the wrath of God and his Almighty hand, is the making or efficient cause, and for the worthinesse of that divine story, how God maketh and taketh away Frogs, I will expresse it as it is left by the holy Ghost, in ch. 8. *Exod. ver. 5. Also the Lord said unto Moses, say thou unto Aaron, stretch thou out thy hand with thy rod upon the streams, upon the rivers, and upon the ponds, and cause Frogs to come upon the land of Egypt. Ver. 6. Then Aaron stretched out his hand upon the waters of Egypt, and the Frogs came up and covered the land of Egypt. Ver. 7. And the Sorcerers did likewise with their Sorceries, and brought Frogs upon the land of Egypt. Ver. 8. Then Pharaoh called for Moses and Aaron, and said; Pray ye unto the Lord, that he may take away the Frogs from me, and from my people, and I will let the people go, that they may do sacrifice to the Lord. Ver. 9. And Moses said unto Pharaoh, concerning me, Command when I shall pray for thee and thy servants, and thy people, to destroy the Frogs from thee, and from thy houses, that they may remain in the River only. Ver. 10. Then he said to morrow, and he answered, Be it as thou hast said, that thou mayst know that there is none like the Lord our God. Ver. 11. So the Frogs shall depart from thee, and from thy houses, and from thy people, and from thy servants, only they shall remain in the River. Ver. 12. Then Moses and Aaron went out from Pharaoh, and Moses cried unto the Lord concerning the Frogs which he had sent unto Pharaoh. Ver. 13. And the Lord did according to the saying of Moses, so the Frogs dyed in the houses, and in the Towns, and in the fields. Ver. 14. And they gathered them together by heaps, and the land stank of them, &c.*

And this was the second plague of *Egypt*, wherein the Lord turned all the Fishes into Frogs: as the Book of Wisdom saith, and the Frogs abounded in the Kings chamber: and notwithstanding this great judgement of God for the present, Pharaoh would not let the people go, and afterwards that blinde superstitious Nation became worshippers of Frogs, (as *Philastrus* writeth) thinking by this devotion, or rather wickednesse in this observant manner, to pacifie the wrath of God, choosing their own ways before the word of Almighty God: But vain is that worship which is invented without heavenly warrant, and better it is to be obedient to the will of God, then go about to please him with the cogitations of men, although in their pretended holinesse we spend much time, wealth, and blood.

There was one *Cypselus*, the father of *Periander*, who by his mother was hid in a Chest called *Kypselus*, to be preserved from the hands of certain murtherers, which were sent to kill him. Wherefore afterwards the said *Cypselus* consecrated a house at *Delfos* to *Apollo*, because he heard his crying when he was hid in a chest, and preserved him. In the bottom of that house, was the trunk of a Palm-tree and certain Frogs pictured running out of the same: but what was meant thereby is not certainly known, for neither *Plutarch* which writeth the story, nor *Chersias* which relateth it, giveth any signification

nification thereof: but in another place where he enquireth the reason why the Oracle of *Pythia* gave no answer, he conjectured because it was that the accursed thing brought out of the Temple of *Apollo* from *Delphos*, into the *Corinthian* house, had ingraven underneath the Brazen Palm, Snakes, and Frogs, or else for the signification of the Sun rising.

The meat of Frogs thus brought forth are green herbs and Humble-bees, or Shorn-bugs, which they devour or catch when they come to the water to drink: sometime also they are said to eat earth, but as well Frogs as Toads do eat the dead Mole, for the Mole devoureth them being alive. In the moneth of *August*, they never open their mouths, either to take in meat or drink, or to utter any voyce, and their chaps are so fast joyned or closed together, that you can hardly open them with your finger, or with a stick. The young ones of this kinde are killed by casting Long-wort, or the leaves of Sea-lettice, as *Aelianus* and *Suidas* write: and thus much for the description of their parts, generation, and sustentation of these common Frogs.

The wisdom or disposition of the *Aegyptian* Frogs is much commended, for they save themselves from their enemies with singular dexterity. If they fall at any time upon a Water-snake, which they know is their mortal enemy, they take in their mouths a round Reed, which with an invincible strength they hold fast, never letting go, although the Snake have gotten her into her mouth, for by this means the Snake cannot swallow her, and so she is preserved alive.

There is a pretty fable of a great Bull which came to the water to quench his thirst, and whilest the Beast came running greedily into the water, he trod in pieces two or three young Frogs; then one of them which escaped with life, went and told his mother the miserable misfortune and chance of his fellows: she asked who it was that had so killed her young ones, to whom he answered: It was a great one, but how great he could not tell; the foolish Mother-frog desirous to have seen some body in the eyes of her son, began to swell with holding in of her breath, and then asked the young one if the Beast were as big as she? And he answered much greater, at which words she began to swell more, and asked him again if the Beast were so big? To whom the young one answered, Mother leave your swelling, for though you break your self, you will never be so big as he: and I think from this fable came the Proverb, *Rana Gyrina sapientior*, wiser then the young Frog. This is excellently described by *Horace* in his third *Satyre*, as followeth;

*Absentis rane pullis vituli pede pressis
Unus ubi effugit matri denarrat, ut ingens
Bellua cognates eliserit, illa rogare,
Quantane? Num tandem se inflans sic magna fuisset?*

*Major dimidio: Num tanto? Cum magis atq;
Se magis inflaret, non si te ruperis, inquit,
Par eris: hæc à te non multum abludit imago.*

Which may be Englished thus;

*In old Frogs absence, the young were prest to death
By feet of a great Calf, drinking in the water,
To tell the dam, one ran that scap't with life and breath,
How a great beast her young to death did scatter.
How great said she? so big? and then did swell.
Greater by half, said he: then she swoll more, and said
Thus big? but he: cease swelling dam, for I thee tell,
Though break thy self, like him thou never canst be made.*

There is another pretty fable in *Esop*, tasking discontented persons under the name of Frogs, according to the old verse:

*Et veterem in limo rana cecinere querelam,
Nam neque sicca placet, nec quæ stagnata palude
Perpetitur, querula semper convitia rana.*

Which may be Englished in this manner;

*The Frogs amidst the earthly slime,
Their old complaints do daily sing:
Not pleas'd with pools, nor land that drine,
But new displeasures daily bring.*

When *Ceres* went about seeking *Proserpina*, she came to a certain Fountain in *Lycia* to quench her thirst, the uncivil *Lycians* hindered her from drinking, both by troubling the water with their feet, and also by sending into the water a great company of croaking Frogs; whereat the Goddesse being angry, turned all those Countrey people into Frogs. But *Ovid* doth ascribe this transmutation of the *Lycians*, to the prayer of *Laiuna*, when she came to drink of the Fountain to increase the milk in her breasts, at such a time as she nursed *Apollo* and *Diana*, which *Metamorphosis* or transmutation, is thus excellently described by *Ovid*;

*Æternum stagno (dixit) vivatis in isto.
Eveniunt optata deæ, juvat esse sub undis,
Et modo tota cava summergere membra palude,
Nunc proferre caput, summo modo gurgite nare,*

*Sepe super ripam stagni consistere, sepe
In gelidos resilire lacus, sed nunc quoque turpes
Litibus exercent linguas, pulsoque pudore
Quamvis sint sub aqua, sub aqua male dicere tentant.*

*Vox quoque jam rauca est, inflataq; colla tumescunt :
Ipsaque dilatant patulos convitia rictus.
Terga caput tangunt, colla intercepta videntur.*

In English thus,

*Spina vires, venter pars maxima corporis albet,
Limosq; novæ saliant in gurgite rane.*

For ever mought you dwell

In this same pond she said : her wish did take off with speed,
For underneath the water they delight to be indeed :
Now dive they to the bottom down, now up their heads they pop,
Another while with sprawling legs they swim upon the top,
And oftentimes upon the banks they have a minde to stand,
And oftentimes from thence again to leap into the pond :
And there they now do practise still their filthy tongues to scold,
And shamelesly, though underneath the water they do hold
Their former wont of brawling, still avoid the water cold :
Their voyces still are hoarse and harsh, their throats have puffed goawls,
Their chaps with brawling widened are, their hammer-headed jawsles,
Are joyned to their shoulders just, the necks of them do seem
Cut off : the ridge bone of their back sticks up with colour green.
Their panch which is the greatest part of all their trunk is gray,
And so they up and down the pond made newly Frogs do play.

Whatsoever the wisdom of Frogs is, according to the understanding of the Poets, this is certain, that they signifie impudent and contentious persons, for this cause there is a pretty fiction in Hell betwixt the two Poets, Euripides and Aeschylus : for the ending of which controversie, Bacchus was sent down to take the worthyest of them out of Hell into Heaven : and as he went over Charons Ferry, he heard nothing but the croaking of Frogs, for such contentious spirits do best besit Hell. And thus much shall suffice to have spoken of the wisdom of Frogs.

Their common enemies are the Weasels, Poul-cats, and Ferrets, for these do gather them together, and lay of them great heaps within their dens : whereupon they feed in Winter. The Hearn also and Bittern, is a common destroyer of Frogs, and so likewise are some kinde of Kites. The Night-birds, *Gimus* and *Gimeta*, the Water-snake (at whose presence in token of extreame terror) the Frog setteth up her voyce in lamentable manner. The Moles are also enemies to Frogs, and it is further said ; that if a burning Candle be set by the water side, during the croaking of Frogs, it will make them hold their peace. Men do also take Frogs, for they were wont to bait a hook with a little red wooll, or a piece of red cloth, also the gall of a Goat put into a vessel, and set in the earth, will quickly draw unto it all the Frogs that be near it, as if it were unto them a very grateful thing : And thus much shall suffice to have spoken of the enemies of Frogs. Now in the next place we are to consider the several uses, both Natural, Medicinal, and Magical, which men do make of Frogs.

And first of all the green Frogs, and some of the yellow which live in Flouds, Rivers, Lakes, and Fish-pools, are eaten by men ; although in ancient time they were not eaten, but only for Physick, for the broth wherein they were sod, and the flesh also, was thought to have vertue in it to cure them which were stricken by any venomous creeping Beast, especially mixed with Salt and Oyl : but since that time *Aetius* discommendeth the eating of Frogs, proving that some of them are venomous, and that by eating thereof, extreame vomits have followed, and they can never be good, except when they are newly taken, and their skins diligently flayed off, and those also out of pure running waters and not out of muddy stinking puddles : and therefore adviseth to forbear in plenty of other meat, this wanton eating of Frogs, as things perilous to life and health, and those Frogs also which are most white when the skin is taken off, are most dangerous and fullest of venom, according to the counsel of *Fiera*, saying ;

*Ultima, sed nostros non accessura lebetes,
Nolumus, succi est pluvii & limosa maligni.
Ni saliat, putris rana paraba titer.
Ira est & adhuc rauca coaxat aquis.*

In English thus ;

We will not dresse a Frog unlesse the last of all to eat,
Because the juyce thereof is muddy and of rain unclean,
Except it go on earth, prepared way to leap.
For, angry it ever is, and hath hoarse voyce amid the stream.

They which use to eat Frogs, fall to have a colour like lead, and the hotter the Countries are, the more venomous are the Frogs ; in colder Countries, as in Germany they are not so harmful, especially after the Spring of the year, and their time of copulation passed. Besides, with the flesh of Frogs, they were wont in ancient time to bait their hooks, wherewithal they did take purple Fishes, and they did burn the young Frogs, putting the powder thereof into a Cat, whose bowels was taken out, then roasting the Cat, and after she was roasted, they anointed her all over with Honey, then laid

laid her by a Wood side, by the odour and savour whereof, all the Wolfs and Foxes lodging in the said Wood were allured to come to it, and then the Hunters lying ready in wait, did take, destroy, and kill them. When Frogs do croak above their usual custom, either more often, or more shrill then they were wont to do: they do foreshew rain and tempestuous weather.

Wherefore Tully saith in his first Book of Divination, who is it that can suspect, or once think that the little Frog should know thus much, but there is in them an admirable understanding nature, constant and open to it self, but more secret and obscure to the knowledge of men; and therefore speaking to the Frogs, he citeth these verses;

*Vos quoq; signa videtis aquai dulcis alumna,
Cum clamore paratis inanes fundere voces,
Absurdoq; sono fontes & stagna cietis.*

In English thus;

*And you O Water-birds which dwell in streams so sweet,
Do see the signes whereby the weather is foretold,
Your crying voyces wherewith the waters are repleat,
Vain sounds, absurdly moving founts and Fountains cold.*

And thus much for the natural use of Frogs. Now followeth the Magical. It is said that if a man take the tongue of a Water-frog, and lay it upon the head of one that is asleep, he shall speak in his sleep, and reveal the secrets of his heart: but if he will know the secrets of a woman, then must he cut it out of the Frog alive, and turn the Frog away again, making certain characters upon the Frogs tongue, and so lay the same upon the panting of a womans heart, and let him ask her what questions he will, she shall answer unto him all the truth, and reveal all the secret faults that ever she hath committed. Now if this magical foolery were true, we had more need of Frogs then of Justices of Peace, or Magistrates in the Common-wealth.

*Albertus.
Kiranides.
Democritus.*

But to proceed a little further, and to detect the vanity of these men, they also say, that the staffe wherewithal a Frog is struck out of a Snakes mouth, laid upon a woman in travail, shall cause an easie deliverance: and if a Man cut off a foot of a Frog as he swims in the water. and binde the same to one that hath the Gout, it will cure him. And this is as true as a shoulder of Mutton worn in ones Hat healeth the Tooth-ach.

Some again do write, that if a woman take a Frog, and spit three times in her mouth, she shall not conceive with childe that year. Also if Dogs eat the pottage wherein a Frog hath been sod, it maketh him dum and cannot bark. And if a Man cast a sod Frog at a Dog, which is ready to assault him, it will make him run away, (I think as fast as an old hungry Horse from a bottle of Hay.) These and such like vanities have the ancient Heathens (ignorant of GOD) firmly believed, till either experience disapproved their inventions, or the sincere knowledge of Religion inlightning their darknesse, made them to forsake their former vain errors, which I would to GOD had come sooner unto them, that so they might never have sinned; or else being now come unto us their children, I pray GOD that it may never be removed, lest by trusting in lying vanities, we forsake our own mercy. And so an end of the Magical Uses. Now we proceed to the Medicinal, in the biting of every venomous creature. Frogs sod or roasted, are profitable, especially the broth, if it be given to the sick person without his knowledge, mixed with Oyl and Salt, as we have said already. The flesh of Water frogs is good against the biting of the Sea-hare, the Scorpion, and all kinde of Serpents; against Leprosie and scabs, and rubbed upon the body, it doth cure the same.

The broath taken into the body with roots of Sea-holm, expelleth the Salamander: so also the Egges of the Frog, and the Egges of the Tortoise, hath the same operation, being sod with Calaminth. The little Frogs are an antidote against the Toads and great Frogs. *Albertus* also among other remedies, prescribeth a Frog to be given to sick Faulkons or Hawks: It is also good for cricks in the neck, or the Cramp. The same sod with Oyl, easeth the pains and hardnesse of the joynts and sinews: they are likewise given against an old Cough, and with old Wine and sod Corn drunk out of the Vessel wherein they are sod, they are profitable against the Dropsie, but with the sharpest Vinegar, Oyl, and spume of Niter sod together, by rubbing and anointing, cureth all scabs in Horses, and pestilent tumors.

There is an Oyl likewise made out of Frogs, which is made in this manner; they take a pound of Frogs, and put them into a vessel or glasse, and upon them they pour a pinte of Oyl, so stopping the mouth of the glasse, they seethe it as they do the Oyl of Serpents, with this they cure the shrinking of the sinews, and the hot Gout, they provoke sleep, and heal the inflammations in Fevers, by anointing the Temples. The effect of this Oyl is thus described by *Serenus*:

*Sape ita per vadit vis frigoris, ac tenet artus,
Ut vix quesito medicamine pulsa recedat.
Si ranam ex oleo decoxeris, abjice carnem,
Membra fove.*

That is to say;

Often are the sinews held by force invading cold,
Which scarce can be repelled back by medicines tried might,
Then seeke a Frog in purest Oyl, as Ancients us have told,
So haue the members sick therein, Frogs flesh cast out of sight.

And again in another place he speaking of the cure of the Fever, writeth thus;

Sed prius est oleo partus fervere Ranae,
In trivium, illoque artus perducere succo.

In English thus;

But first let Oyl make hot young Frogs new found
In ways, therewith bring sinews weak to weal full sound.

To conclude, it were infinite and needlesse to expresse all that the Physitians have observed about the Medicines rising out of the blood, fat, flesh, eyes, heart, liver, gall, intrails, legs, and sperm of Frogs, besides powders, and distillations; therefore I will not weary the Reader, nor give occasion to ignorant men, to be more bold upon my writing of Physick then is reason, lest that be said against me which proverbially is said of unnecessary things, *Ranis vinum ministras*, you give Wine to Frogs, which have neither need nor nature to drink it, for they delight more in water. And so I conclude the History of this vulgar Frog.

Of the GREEN FROG.

THIS Frog is called *Calamites*, and *Dryophytes*, and *Mantis*, and *Rana virens*. In *Arabia blepharicon*, and *Cucunoinos*, and *Cucumones*, *Irici*, *Ranula*, *Brexantes*, of *Brex-ein*, to rain, and thereof cometh the faigned word of *Aristophanes*, *Brekekekex Koax*; but I think that as our English word Frog is derived from the German word *Frosch*, so the Germans *Frosch* from the Greek word *Brex*. It is called also *Zamia*, that is, *Dammum*, losse, hurt or damage, because they live in trees, and many times harm Men and Cattle underneath the trees; and therefore called *Zamia*, of the Greek word *Zemia*. The Italians call it *Racula*, *Ranocobia*, *Lo Ronovoto*, *Ranocobia de rubetto*. The French, *Croissetz*, and sometimes *Graisset*, *Verdier*; in *Savoy*, *Renogle*. In *Germany*, *Loubfrosch*. In *Poland*, *Zaba Trawna*. Some of the Latines for difference sake call it *Rana Rubeta*, because it liveth in trees and bushes: and for the same cause it is called *Calamites*, because it liveth among reeds, and *Dryopetes*, because it falleth sometimes out of trees.

It is the least of all other Frogs, and liveth in trees, or among fruits and trees, especially in the Woods of Hasels, or Vines, for with its short legs it climbeth the highest trees: infomuch that some have thought it had wings. It is green all over the body, except the feet and the fingers, which are of dusty or reddish colour, and the tops of his nails or claws are blunt and round: In the dissection thereof there was blood found in every part of the body, and yet but little. The heart of it is white, the liver black, mixed with the gall. It hath also a milt, and in the end of July it layeth egges.

It is a venomous Beast, for sometimes Cattle as they brouse upon trees, do swallow down one of these upon the leaves not discerning it, because it is of the same colour: but presently after they have eaten it their Bellies begin to swell, which must needs proceed from the poysoned Frog.

A second reason proving it to be venomous, is for that many Authors do affirm, that hereof is made the *Psilotrum*, for the drawing out of teeth by the roots, and for this cause is concluded to be venomous, because this cannot be performed without strong poyson. But for the cure of the poyson of this Frog, we shall expresse it afterward in the history of the Toad, and therefore the Reader must not expect it in this place. Always before rain they climb up upon the trees, and there cry after a hoarse manner very much, which caused the Poet *Serenus* to call it *Rauco garrula questu*: at other times it is mute, and hath no voyce: wherefore it is more truly called *Mantis*, that is, a Prophet or a Diviner, then any other kinde of Frog, because other Frogs which are not altogether mute, do cry both for fear, and also for desire of carnal copulation, but this never cryeth but before rain.

Some have been of opinion, that this is a dum Frog; and therefore *Vincentius Bellucensis* saith, that it is called a mute Frog from the effect: for there is an opinion, that this put into the mouth of a Dog, maketh him dum, which if it be true, it is an argument of the extreme poyson therein contained, overcoming the nature of the Dog, whose chiefest senses are his taste and his smelling. And thus much shall suffice for the description of this Frog.



The medicinal vertues observed herein are these that follow. First if a man which hath a cough, do spet into the mouth of this Frog, it is thought that it doth deliver him from his cough, and being bound in a Cranes skin unto a mans thigh, procureth venereous desires: but these are but magical devices, and such as have no apparent reason in nature, wherefore I will omit them, and proceed to them that are more reasonable and natural. First, for the Oyl of Frogs, that is the best which is made out of the green Frogs, as it is observed by *Silvius*; and if they are held betwixt a mans hands, in the fit of hot burning Ague, do much refresh nature, and ease the pain. For Fever-heckicks they prepare them thus: they take such Frogs as have white bellies, then cut off their heads and pull out their bowels, afterwards they seethe them in water, until the flesh fall from the bones, then they mingle the said flesh with Barley meal, made into paste, wherewithal they cram and feed Pullen with that paste, upon which the sick man must be fed, and in default of Frogs they do the like with Eels, and other like Fishes. But there is no part of the Frog so medicinable as is the blood, called also the matter or the juyce, and the humor of the Frog, although some of them write, that there is no blood but in the eyes of a Frog: First therefore with this they kill hair, for upon the place where the hair was puld off, they pour this blood, and then it never groweth more: And this as I have said already, is an argument of the venom of this Frog; and it hath been proved by experience, that a man holding one of these Frogs in his hands, his hands have begun to swell, and to break out into blisters. Of this vertue *Serenus* the Poet writeth thus;

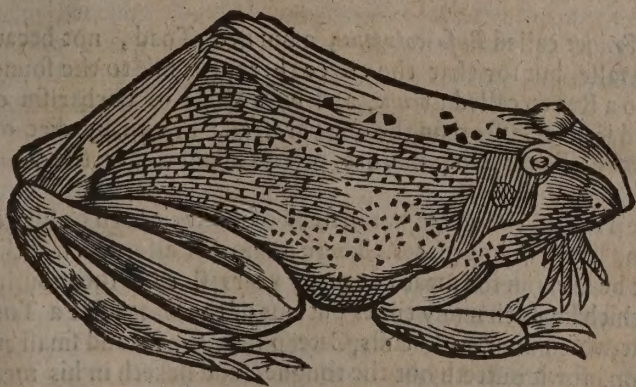
*Præterea quascunque voles avertere setas,
Atque in perpetuum rediviva ocludere telo,
Corporibus vulsis saniem perducito rane,
Sed quæ parva situ est, & rauco garrula questu.*

That is to say;

Besides, from whatsoever bodies hairs thou wilt
Be clean destroyed, and never grow again
On them, the matterly blood of Frogs, all spread and spill,
I mean the little Frog questing hoarse voyce amain.

The same also being made into a Verdigrease, and drunk the weight of a Crown, stoppeth the continual running of the urine. The humor which cometh out of the Frog, being alive when the skin is scraped off from her back, cleareth the eyes by an Ointment: and the flesh laid upon them, easeth their pains; the flesh and fat pulleth out teeth. The powder made of this Frog being drunk, stayeth bleeding, and also expelleth spots of blood dried in the body. The same being mingled with Pitch, cureth the falling off of the hair. And thus much shall suffice for the demonstration of the nature of this little green Frog.

Of the Padock or Crooked back F R O G.



IT is apparent that there be three kinds of Frogs of the earth, the first is the little green Frog: the second is this Padock, having a crook back, called in Latine, *Rubeta Gibbosa*; and the third is the Toad, commonly called *Rubetax*, *Bufo*. This second kinde is mute and dumb, as there be many kinde of mute Frogs, such as is that which the Germans call *Feurkrott*, and our late Alchymists *Puriphrunon*, that is, a Fire-frog, because it is of the colour

of fire: This is found deep in the earth, in the midst of Rocks and stones when they are cleft asunder, and amongst metals, whereinto there is no hole or passage, and therefore the wit of man cannot devise how it should enter therein, only there they finde them when they cleave those stones in sunder with their wedges and other instruments. Such as these are, are found near *Tours* in France, among a red sandy stone, whereof they make the Millstones, and therefore they break that stone all in pieces before they make the Millstone up, lest while the Padock is included in the middle, and the Millstone going in the mill, the heat should make the Padock swell, and so the Millstone breaking, the corn should be poisoned. As soon as these Padocks come once into the air, out of their close places of generation and habitation, they swell and so die.

This crook-backed Padock is called by the Germans, *Gartenfrosch*, that is, a Frog of the Garden, and *Grasfrosch*, that is, a Frog of the grasse. It is not altogether mute, for in time of peril, when they are chased by men, or by Snakes, they have a crying voyce, which I have oftentimes proved by experience, and all Snakes and Serpents do very much hunt and desire to destroy these: also I have seen a

Snake hold one of them by the leg, for because it was great she could not easily devour it, and during that time it made a pitiful lamentation.

These Padocks have as it were two little horns or bunches in the middle of the back, and their colour is between green and yellow, on the sides they have red spots, and the feet are of the same colour, their belly is white, and that part of their back which is directly over their breast, is distinguished with a few black spots. And thus much may serve for the particular description of the Padock, not differing in any other thing that I can read of from the former Frogs, it being venomous as they are, and therefore the cure is to be expected hereafter, in the next History of the Toad.

of the T O A D.

TO conclude the story of Frogs, we are now to make description and narration of the Toad, which is the most noble kinde of Frog, most venomous and remarkable for courage and strength. This is called in Hebrew by some Coah; the Grecians call it Phrunon; the Arabians, *Mysoxus*; the Germans, Krott: the Saxons, Quap; the Flemings, Padde; the Illyrians, Zaba; the French, Crapault; the Italians, Rospo, Botta, Boffa, Chiatto, Zatto, Buffo, Buffa, Buffone, and Ramarro; the Spaniard, Sapo escu, erco, the Latines, *Rubeta*, because it liveth among bushes, and *Bufo*, because it swelleth when it is angry.

Now I finde of these Toads two Kindes, the one called *Rubeta palustris*, a Toad of the fens, or of the waters; the other *Rubeta terrestris*, a Toad of the earth: And these in Authors are sometimes confounded, one taken for another. The greatest difference that I can learn, is their seat or place of habitation, for they live both of them in the land and in the water. And of them that be in the water, some of them be smaller then the other, and are therefore called *Rubetula*, that is, little Toads: and I think they be the same which are called by some Authors *Rana Simoides*. Near unto Zurich, there are Toads not half so big as the vulgar Toads, at a place called Kiburg, being of a dirty colour on the back, and sharp boned, the belly white and yellow, or rather betwixt both, the eyes of a gold flaming colour, the buttocks and hinder-legs hairy, and besides that place, these Kindes of Toads are no where found. They have a very shrill voyce, so as they are heard a great way off, like a small bell or trumpet, and they never utter their voyce but in the Spring, and the fore-part of the Summer; for about September they hide themselves in trees, neither do they live among the waters, but on the dry land; when they cry, it is certain that the night following will bring forth no frost.

Like unto this there is a Toad in France called *Bufo cornutus*, a horned Toad, not because it hath horns, for that is most apparently false, but for that the voyce thereof is like to the sound of a Cornet, or rather (as I think) like to a Raven called *Cornix*, and by a kinde of Barbarism called *Bufo cornutus*. The colour of this Toad is like Saffron on the one part, and like filthy dirt on the other: besides, there are other venomous Toads living in sinks, privies, and under the roots of plants.

There is another kind also, like to the Toad of the water, but in stead of bones it hath only gristles, and it is bigger then the Toad of the fen, living in hot places. There is another also, which although it be a Toad of the water, yet hath it been eaten for meat not many years since: the mouth of it is very great, but yet without teeth, which he doth many times put out of the water like a Tortoise to take breath, and in taking of his meat, which are flies, Locusts, Caterpillers, Gnats and small creeping things, it imitateth the Chamæleon, for it putteth out the tongue, and licketh in his meat by the space of three fingers, in the top whereof there is a soft place, having in it viscous humor, which causeth all things to cleave fast unto it which it toucheth, by vertue whereof it devoureth great flies. And therefore the said tongue is said to have two little bones growing at the root thereof, which by the wonderful work of Nature, doth guide, fortifie and strengthen it. And thus much may serve as a sufficient relation unto the Reader for the diversity of Toads.

Now we will proceed to the common description of both Kindes together. This Toad is in all outward parts like unto a Frog, the fore-feet being short, and the hinder-feet long, but the body more heavy and swelling, the colour of a blackish colour, the skin rough, viscous, and very hard, so as it is not easie to be broken with the blow of a staffe. It hath many deformed spots upon it, especially black on the sides, the belly exceeding all other parts of the body, standing out in such manner, that being smitten with a staffe, it yeeldeth a sound as it were from a vault or hollow place. The head is broad and thick, and the colour thereof on the neather part about the neck is white, that is, somewhat pale, the back plain without bunches, and it is said, that there is a little bone growing in their sides, that hath a vertue to drive away Dogs from him that beareth it about him, and is therefore called



called *Apocynon*. The whole aspect of this Toad is ugly and unpleasant. Some Authors affirm that it carryeth the heart in the neck, and therefore it cannot easily be killed, except the throat thereof be cut in the middle. Their liver is very vitious, and causeth the whole body to be of ill temperament: And some say they have two livers. Their milt is very small; and as for their copulation and egges, they differ nothing from Frogs.

There be many late Writers, which do affirm that there is a precious stone in the head of a Toad, whose opinions (because they attribute much to the vertue of this stone) it is good to examine in this place, that so the Reader may be satisfied whether to hold it as a fable or as a true matter, exemplifying the powerful working of Almighty God in nature, for there be many that wear these stones in Rings, being verily perswaded, that they keep them from all manner of gripings and pains of the belly and the smal guts. But the Art (as they term it) is in taking of it out, for they say it must be taken out of the head alive, before the Toad be dead, with a piece of cloth of the colour of red Scarlet, wherewithal they are much delighted, so that while they stretch out themselves as it were in sport upon that cloth, they cast out the stone of their head, but instantly they sup it up again, unlesse it be taken from them through some secret hole in the said cloth, whereby it falleth into a cistern or vessel of water, into the which the Toad dareth not enter, by reason of the coldnesse of the water. These things writeth *Massarius*.

Brasavolus saith, that he found such a thing in the head of a Toad, but he rather took it to be a bone then a stone, the colour whereof was brown, inclining to blacknesse. Some say it is double, namely outwardly a hollow bone, and inwardly a stone contained therein, the vertue whereof is said to break, prevent, or cure the stone in the bladder. Now how this stone should be there ingendered, there are divers opinions also, and they say that stones are ingendered in living creatures two manner of ways, either through heat or extreame cold, as in the Snail, Pearch, Crab, *Indian* Tortoyse, and Toads; so that by extremity of cold this stone should be gotten.

Against this opinion the colour of the stone is objected, which is sometimes white, sometimes brown, or blackish, having a citrine or blew spot in the middle, sometimes all green, whereupon is naturally engraven the figure of a Toad, and this stone is sometimes called *Berax*, sometimes *Crapidine*, and sometimes *Nise*, or *Nuse*, and *Chelonites*. Others do make two kinds of these two stones, one resembling a great deal of milk mixed with a little bloud, so that the white exceedeth the red, and yet both are apparent and visible: the other all black, wherein they say is the picture of a Toad, with her legs spread before and behinde. And it is further affirmed, that if both these stones be held in ones hand in the presence of poyson, it will burn him. The probation of this stone is by laying of it to a live Toad, and if she lift up her head against it, it is good, but if she run away from it, it is a counterfeit.

Geor. Agricola calleth the greater kinde of these stones, *Brontia*, and the lesser and smother sort of stones, *Ceraunia*, although some contrary this opinion, saying that these stones *Brontia*, and *Ceraunia*, are bred on the earth by thundering and lightning. Whereas it is said before, that the generation of this stone in the Toad proceedeth of cold, that is utterly impossible, for it is described to be so solid and firm, as nothing can be more hard, and therefore I cannot assent unto that opinion, for unto hard and solid things, is required abundance of heat: and again, it is unlikely, that whatsoever this Toad-stone be, that there should be any store of them in the world as are every where visible, if they were to be taken out of the Toads alive, and therefore I rather agree with *Salveldensis* a *Spaniard*, who thinketh that it is begotten by a certain viscous spume, breathed out upon the head of some Toad, by her fellows in the Spring time.

This stone is that which in ancient time was called *Batrachites*, and they attribute unto it a vertue besides the former, namely, for the breaking of the stone in the Bladder, and against the Falling-sicknesse. And they further write, that it is a discoverer of present poyson, for in the presence of poyson it will change the colour. And this is the substance of that which is written about this stone. Now for my part I dare not conclude either with it, or against it, for *Hermolaus*, *Massarius*, *Albertus*, *Sylvaticus*, and others, are directly for this stone ingendered in the brain or head of the Toad: on the other side, *Cardan* and *Gesner* confesse such a stone by name and nature, but they make doubt of the generation of it, as others have delivered; and therefore they being in sundry opinions, the hearing whereof might confound the Reader, I will refer him for his satisfaction unto a Toad, which he may easily every day kill: For although when the Toad is dead, the vertue thereof be lost, which consisteth in the eye, or blew spot in the middle, yet the substance remaineth, and if the stone be found there in substance, then is the question at an end, but if it be not, then must the generation of it be sought for in some other place.

Thus leaving the stone of the Toad, we must proceed to the other parts of the story, and first of all their place of habitation, which for them of the water, is neer the water-side, and for them of the earth, in bushes, hedges, rocks, and holes of the earth, never coming abroad while the Sun shineth, for they hate the Sun-shine, and their nature cannot endure it, for which cause they keep close in their holes in the day time, and in the night they come abroad. Yet sometimes in rainy weather, and in solitary places, they come abroad in the day time. All the Winter time they live under the earth, feeding upon earth, herbs, and worms, and it is said, they eat earth by measure, for they eat so much every day as they can gripe in their fore-foot, as it were sizing themselves, lest the whole earth should not serve them till the Spring. Resembling herein great rich covetous men, who ever spare to spend, for fear they shall want before they die. And for this cause in ancient time the wise Painters of Germany,

Germany, did picture a woman sitting upon a Toad, to signifie covetousnesse. They also love to eat Sage, and yet the root of Sage is to them deadly poyson; They destroy Bees, without all danger to themselves, for they will creep to the holes of their Hives, and there blow in upon the Bees, by which breath they draw them out of the Hive, and so destroy them as they come out: for this cause also at the Water-side they lie in wait to catch them. When they come to drink in the day time they see little or nothing, but in the night time they see perfectly, and therefore they come then abroad.

About their generation there are many worthy observations in nature, sometimes they are bred out of the putrefaction and corruption of the earth; it hath also been seen that out of the ashes of a Toad burnt, not only one, but many Toads have been regenerated the year following. In the New-world there is a Province called *Dariene*, the air whereof is wonderful unwholesome, because all the Countrey standeth upon rotten marishes. It is there observed, that when the slaves or servants water the pavements of the doores, from the drops of water which fall on the right hand, are instantly many Toads ingendered, as in other places such drops of water are turned into Gnats. It hath also been seen, that women conceiving with childe, have likewise conceived at the same time a Frog, or a Toad, or a Lizard, and therefore *Platanius* saith, that those things which are medicines to provoke the menstruous course of women, do also bring forth the Secondines. And some have called *Bufonem fratrem Salernitanorum*, & *lacertam fratrem Lombardorum*: that is, a Toad the Brother of the *Salernitan*, and the Lizard the Brother of the *Lombards*: for it hath been seen that a woman of *Salernum*, hath at one time brought forth a Boy and a Toad, and therefore he calleth the Toad his Brother; so likewise a woman of *Lombardy*, a Lizard, and therefore he calleth the Lizard the *Lombards* Brother. And for this cause, the women of those Countries, at such time as their childe beginneth to quicken in their womb, do drink the juyce of Parsley and Leeks, to kill such conceptions if any be.

There was a woman newly married, and when in the opinion of all she was with childe, in stead of a childe she brought forth four little living creatures like Frogs, & yet she remained in good health, but a little while after she felt some pain about the rim of her belly, which afterward was eased by applying a few remedies. Also there was another woman, which together with a Man-childe, in her Secondines did bring forth such another Beast; and after that a Merchants wife did the like in *Anconitum*. But what should be the reason of these so strange and unnatural conceptions, I will not take upon me to decide in nature, lest the Omnipotent hand of God should be wronged, and his most secret and just counsel presumptuously judged and called into question. This we know, that it was prophesied in the Revelation, that Frogs and Locusts should come out of the Whore of *Babylon*, and the bottomlesse pit, and therefore seeing the seat of the Whore of *Babylon* is in *Italy*, it may be that God would have manifested the depravation of Christian Religion, beginning among the *Italians*, and there continued in the conjoynd birth of Men and Serpents: for surely, none but Devils incarnate, or men conceived of Serpents brood, would so stiffly stand in *Romish* error as the *Italians* do, and therefore they seem to be more addicted to the errors of their Fathers, (which they say is the Religion wherein they were born) then unto the truth of Jesus Christ, which doth unanswerably detect the pride and vanity of the *Romish* faith.

But to leave speaking of the conception of Toads in Women, we will proceed further unto their generation in the stomachs and bellies of men, whereof there may more easily a reason be given then of the former. Now although that in the earth Toads are generated of the putrefied earth and waters, yet such a generation cannot be in the body of man, for although there be much putrefaction in us, yet not so much to ingender bones and other organes, such as are in Toads; as for Worms they are all flesh, and may more easily be conceived of the putrefaction in our stomachs. But then you will say, how comes it to passe that in mens stomachs there are found Frogs and Toads? I answer that this evill hapneth unto such men as drink water, for by drinking of water, a Toads egge may easily slip into the stomach, and there being of a viscous nature, cleaveth fast to the rough parts of the ventricle, and it being of a contrary nature to man, can never be digested or avoided, and for that cause the venom that is in it, never goeth out of the Egge either in operation or in substance, to poyson the other parts of the body, but there remaineth until the Egge be formed into a Toad, without doing further harm: and from hence it cometh that Toads are bred in the bodies of men, where they may as well live without air, as they do in the midst of trees and rocks, and yet afterwards, these Toads do kill the bodies they are bred in. For the venom is so tempered, that at last it worketh when it is come to ripenesse, even as we see it is almost an usual thing, to take a poyson, whose operation shall not be perceived, till many days, weeks, or moneths after.

For the casting out of such a Toad bred in the body, this medicine is prescribed: They take a Serpent and bowel him, then they cut off the head and the tail, the residue of the body they likewise part into small pieces, which they seethe in water, and take off the fat which swimmeth at the top, which the sick person drinketh, until by vomiting he avoid all the Toads in his stomach, afterwards he must use restorative and aromatical medicines. And thus much may suffice for the ordinary and extraordinary generation of Toads.

These Toads do not leap as Frogs do, but because of their swelling bodies and short legs, their pace is a soft creeping pace, yet sometimes in anger they lift up themselves, endeavouring to do harm, for great is their wrath, obstinacy, and desire to be revenged upon their adversaries, especially the red Toad; for look how much her colour inclineth to rednesse, so much is her wrath and venom more pestilent. If she take hold of any thing in her mouth, she will never let it go till she

she die, and many times she sendeth forth poyson out of her buttocks or backer parts, wherewithal she infecteth the air, for revenge of them that do annoy her; and it is well observed that she knoweth the weaknesse of her teeth, and therefore for her defence she first of all gathereth abundance of air into her body, wherewithal she greatly swelleth, and then by sighing uttereth that infected air as neer the person that offendeth her as she can, and thus she worketh her revenge, killing by the poyson of her breath. The colour of this poyson is like milk, of which I will speak afterward particularly by it self.

A Toad is of a most cold temperament, and bad constitution of nature, and it useth one certain herb wherewithal it preserveth the sight, and also resisteth the poyson of Spiders, whereof I have heard this credible History related, from the mouth of a true honourable man, and one of the most charitable Peers of *England*, namely, the good Earl of *Bedford*, and I was requested to set it down for truth, for it may be justified by many now alive that saw the same.

It fortuned as the said Earl travailed in *Bedfordshire*, neer unto a Market-town called *Oxbourn*, some of his company espyed a Toad fighting with a Spider, under a hedge in a bottom, by the high-way-side, whereat they stood still, until the Earl their Lord and Master came also to behold the same; and there he saw how the Spider still kept her standing, and the Toad divers times went back from the Spider, and did eat a piece of an herb, which to his judgement was like a Plantain. At the last, the Earl having seen the Toad do it often, and still return to the combat against the Spider, he commanded one of his men to go, and with his dagger to cut off that herb, which he performed and brought it away. Presently after the Toad returned to seek it, and not finding it according to her expectations, swelled and broke in pieces: for having received poyson from the Spider in the combat, nature taught her the vertue of that herb, to expell and drive it out, but wanting the herb, the poyson did instantly work and destroy her. And this (as I am informed) was oftentimes related by the Earl of *Bedford* himself upon sundry occasions, and therefore I am the bolder to insert it into this story.

A story.

I do the more easily believe it, because of another like story related by *Erasmus* in his Book of Friendship, hapning likewise in *England*, in manner as followeth. There was a Monk who had in his chamber divers bundles of green rushes, wherewithal he used to strow his chamber at his pleasure, it hapned on a day after dinner, that he fell asleep upon one of those bundles of rushes, with his face upward, and while he there slept, a great Toad came and sate upon his lips, bestriding him in such manner as his whole mouth was covered. Now when his fellows saw it, they were at their wits end, for to pull away the Toad was an unavoidable death, but to suffer her to stand still upon his mouth, was a thing more cruel then death: and therefore one of them espying a Spiders web in the window, wherein was a great Spider, he did advise that the Monk should be carried to that window, and laid with his face upward right underneath the Spiders web, which was presently accomplished. And as soon as the Spider saw her adversary the Toad, she presently wove her thred, and descended down upon the Toad, at the first meeting whereof the Spider wounded the Toad, so that it swelled, and at the second meeting it swelled more, but at the third time the Spider kild the Toad, and so became grateful to her Host which did nourish her in his Chamber; for at the third time the Toad leaped off from the mans mouth, and swelled to death; but the man was preserved whole and alive. And thus much may suffice for the antipathy of nature betwixt the Toad and the Spider.

A story.

The Mole is also an enemy to the Toad, for as *Albertus* writeth, he himself saw a Toad crying above the earth very bitterly, for a Mole did hold her fast by the leg within the earth, labouring to pull her in again, while the other strove to get out of her teeth, and so on the other side, the Toads do eat the Moles when they be dead. They are also at variance with the Lizard, and all kindes of Serpents, and whensoever it receiveth any wound by them, it cureth it self by eating of Plantain. The Cat doth also kill Serpents and Toads, but eateth them not, and unlesse she presently drink, she dyeth for it. The Buzard and the Hawk are destroyers of Toads, but the Stork never destroyeth a Toad to eat it, except in extremity of famine, whereby is gathered the venomous nature of the Toad.

Now to conclude, the premisses considered which have been said of the Toad, the uses that are to follow are not many, except those which are already related in the Frog. When the *Spaniards* were in *Bragua*, an Island of the *New-found-world*, they were brought to such extremity of famine, that a sick man amongst them was forced to eat two Toads, which he bought for two pieces of gold-lace, worth in *Spanish* money fix Duckats. I do marvel why in ancient time the *Kings of France* gave in their Arms the three Toads in a yellow field, the which were afterwards changed by *Clodoveus* into three Flower-de-luces in a field Azure, as Arms sent unto him from Heaven.

When the *Trojans* dwelt neer *Mæotis*, after the destruction of *Troy*, they were very much annoyed by the *Goths*, wherefore *Marcomirus* their King, determined to leave that Countrey, and to seek some where else a more quiet habitation. Being thus minded, he was admonished by an Oracle that he should go and dwell in that Countrey where the River *Rhene* falleth into the Sea, and he was also stirred up to take upon him that journey, by a certain Magitian-woman, called *Alruna*, for this cunning Woman caused in the night time a deformed apparition to come unto him having three heads, one of an Eagle, another of a Toad, and the third of a Lyon, and the Eagles head did speak unto him in this manner, *Genus tuum o Marcomire opprimet me, & conculcabit Leonem, & interficiet bufonem*; that is to say: Thy stock or posterity, O *Marcomirus*, shall oppresse me, it shall tread the Lyon under foot, and kill the Toad. By which words he gathered, that his posterity should rule over the *Romans*, signified

signified by the Eagle; and over the *Germans*, signified by the Lyon; and over the *French*, signified by the Toad, because the Toad, as we have said, was the ancient Arms of *France*.

It is an opinion held by some Writers, that the Weasels of the water do ingender in copulation with the Toads of the water, for in their mouths, and feet of their belly, they do resemble them: Whereupon these verses were made;

*Bufones gigno putrida tellure sepulta,
Humores pluviæ forte quod ambo sumus,
Humet is & friget, mea sic vis humet & alget,
Cum perit in terra qui prius ignis erat.*

Which may be Englished thus;

*Buryed in rotten earth, forth Toads I bring,
Perhaps because we both are made of rain,
Thou's moist and cold, moist I and ever freezing,
When in the earth, that force from fire came.*

And thus we will descend to discourse of the Toads poyson, and of the special remedies appointed for the same. First therefore, all manner of Toads, both of the earth and of the water are venomous, although it be held that the Toads of the earth are more poysonful then the Toads of the water, except those Toads of the water which do receive infection or poyson from the water, for some waters are venomous. But the Toads of the land, which do descend into the marishes, and so live in both elements, are most venomous, and the hotter the Countrey is, the more full are they of poyson.

The Women-witches of ancient time which killed by poysoning, did much use Toads in their confessions, which caused the Poet in his verses to write as followeth.

*Occurrit Matrona potens, quæ molle Calenum
Porreclura viro, miscet sitiente rubetam.*

Which may be Englished thus;

*There came a rich Matron, who mixed Calen Wine,
With poyson of Toads to kill her Spouse, O deadly crime.*

And again in another place,

*Funus promittere patris
Nec volo nec possum ranarum, in viscera nunquam
Inspexi.*

In English thus;

*I can nor will of Fathers death a promise make,
For of Toads poyson I never yet a view did take.*

When an Asp hath eaten a Toad, their biting is incurable, and the Bears of *Pamphilia* and *Cylicia*, being killed by men after that they have eaten Salamanders or Toads, do poyson their eaters. We have said already, that a Toad hath two livers, and although both of them are corrupted, yet the one of them is said to be full of poyson, and the other to resist poyson. The biting of a Toad, although it be seldom, yet it is venomous, and causeth the body to swell and to break, either by Impostumation, or otherwise, against which is to be applyed common Antidotes, as womens Milk, Triacle, roots of Sea-holm, and such other things. The spittle also of Toads is venomous, for if it fall upon a man, it causeth all his hair to fall off from his head; against this evil *Paracelsus* prescribeth a plaister of earth, mixed with the spittle of a man.

The common people do call that humor which cometh out of the buttocks of a Toad when she swelleth, the urine of a Toad, and a man moistned with the same, be-pissed with a Toad; but the best remedy for this evil, is the milk of a woman, for as it resemblenth the poyson in colour, so doth it resist it in nature. The bodies of Toads dried, and so drunk in Wine after they be beaten to powder, are a most strong poyson, against which and all other such poyson of Toads, it is good to take Plantain and black Hellebore, Sea-crabs dried to powder and drunk, the stalks of Dogs-tongue, the powder of the right horn of a Hart, the milt, spleen, and heart of a Toad. Also certain fishes called Shel-crabs, the blood of the Sea-tortoise mixed with Wine, Cummin, and the rennet of a Hare. Also the blood of a Tortoise of the land mixed with Barley-meal, and the quintessence of Triacle and Oyl of Scorpions, all these things are very precious against the poyson of Serpents and Toads.

We have promised in the story of the Frog, to expresse in this place such remedies, as the learned Physitians have observed for the cure of the poyson of Frogs. First therefore the poyson of the Frog causeth swelling in the body, depelleth the colour, bringeth difficulty of breathing, maketh the breath strong, and an involuntary profusion of seed, with a general dulnesse and restinesse of body: for remedy whereof, let the party be inforced to vomit by drinking sweet Wine, and two drams of the powder of the root of Reeds or Cypress. Also he must be inforced to walking and running, besides daily washing. But if a Fever follow the poyson or burning in the extremities, let the vomit be of water and Oyl, or Wine and Pitch; or let him drink the blood of a Sea-tortoise, mixed with Cummine, and the rennet of a Hare, or else sweat in a Furnace or Hot-house a long time: besides many other such like remedies, which every Physitian, both by experience and reading, is able to minister in cases of necessity, and therefore I will spare my further pains from expressing

expressing them in this place, and passe on to the medicinal vertues of the Toad, and so conclude this history.

We have shewed already that the Toad is a cold creature, and therefore the same sod in water, and the body anointed therewith, causeth hair to fall off from the members so anointed. There is a medicine much commended against the Gowt, which is this: Take six pound of the roots of wilde Cucumber, six pound of sweet Oyl, of the marrow of Harts, Turpentine, and Wax, of either six ounces, and six Toads alive, the which Toads must be bored through the foot, and hanged by a thred in the Oyl until they grow yellow, then take them out of the Oyl by the threds, and put into the said Oyl the sliced root of a Cucumber, and there let it see the until all the vertue be left in the Oyl. Afterwards melt the Wax and Turpentine, and then put them all together in a glasse, so use them morning and evening against the Gowt, *Sciatica*, and pains of the sinews, and it hath been seen that they which have lyen long sick, have been cured thereof, and grown perfectly well and able to walk. Some have added unto this medicine Oyl of Saffron, *Opobalsamum*, bloud of Tortoises, Oyl of Sabine, Swines grease, Quicksilver, and Oyl of Bays.

For the scabs of Horses, they take a Toad killed in wine and water, and so sod in a brazen vessel, and afterwards anoint the Horse with the liquor thereof. It is also said that Toads dryed in smoak, or any piece of them carryed about one in a linnen cloth, do stay the bleeding at the nose. And this *Frederick* the Duke of *Saxony*, was wont to practise in this manner; he had ever a Toad pierced through with a piece of wood, which Toad was dryed in the smoak or shadow, this he rowled in a linnen cloth; and when he came to a man bleeding at the nose, he caused him to hold it fast in his hand until it waxed hot, and then would the bloud be stayed. Whereof the Physitians could never give any reason, except horror and fear constrained the bloud to run into his proper place, through fear of a Beast so contrary to humane nature. The powder also of a Toad is said to have the same vertue, according to this verse;

Buffo ustus sinit nature dote cruorem.

In English thus;

*A Toad that is burned to ashes and dust,
Stays bleeding by gift of Nature just.*

The skin of a Toad, and shell of a Tortoyse, either burned or dryed to powder, cureth the *Fistulae*: Some add hereunto the root of Laurel and Hen-dung, Salt, and Oyl of Mallows. The eyes of the Toad are received in Ointment against the Worms of the belly. And thus much shall suffice to have spoken of the history of the Toad and Frogs.

Of the GREEN SERPENTS.

IN *Valois* there are certain Green-serpents, which of their color are called *Grunling*, and I take them to be the same which *Hesychius* called *Saurite*, and *Pliny* by a kinde of excellency, Snakes, of whom we shall speak afterwards, for I have no more to say of them at this present, but that they are very venomous. And it may be that of these came the common proverb, *Latet Anguis sub herba*, under the green herb lyeth the Green-snake, for it is a friendly admonition unto us to beware of a falshood covered with a truth like unto it.

Of the HÆMORRHE.



THis Serpent hath such a name given unto it, as the effect of his biting worketh in the bodies of men, for it is called in *Latine*, *Hæmorrhous*, to signifie unto us the male, and *Hæmorrhais*, to signifie the female, both of them being derived from the *Greek* word *Aima*, which signifieth bloud, and *Reo*, which signifieth to flow, because whomsoever it biteth, it maketh in a continual bleeding sweat, with extremity of pain until it die. It is also called *Affodius*, and *Afudius*, *Sabrine*, and *Halfordius*, or *Alfordius*, which are but corrupted barbarous names from the true and first word *Hæmorrhous*.

It is doubtful whether this be to be ascribed to the Asps or to the Vipers, for *Isidorus* saith it is *Pliny*. a kinde Asp, and *Ælianus*, a kinde of Viper. They are of a sandy colour, and in length not past one foot, or three handfuls, whose tail is very sharp or small, their eyes are of a fiery-flaming colour, their

their head small, but hath upon it the appearance of horns. When they goe, they go straight and slowly, as it were halting and wearily, whose pace is thus described by Nicander;

Et instar
Ipsius oblique sua parvula terga Ceraſta
Claudicat: ex medio videas appellere dorſo

Parvum navigium, terit imiam lubrica terram
Alvus, & baud alio tacite trahit illa motu,
Ac per Arundineum ſi tranſeat illa grabatum

In English thus;

And like the Horned-serpent, ſo trails this elf on land,
As though on back a little boat it drave,
His ſliding belly makes paths be ſeen in ſand,
As when by bed of Reeds ſhe goes her life to ſave.

The ſcales of this Serpent are rough and ſharp, for which cauſe they make a noiſe when they goe on the earth; the female reſteth her ſelf upon her lower part neer her tayl, creeping altogether upon her belly, and never holdeth up her head, but the male when he goeth holdeth up his head: their bodies are all ſet over with black ſpots, and themſelves are thus paraſtically deſcribed by Nicander;

Unum longa pedem, totoque gracillima tractu,
Ignea quandoque eſt, quandoque eſt candida forma,
Conſtrictumque ſatis collum, et tenuiſſima cauda.
Bina ſuper gelidos oculos frons cornua proferit,

Splendentem quadam radiorum albertia luce,
Silveſtres ut apes, populatricesque Locuſtae:
Inſuper horribile ac aſperrum caput horret.

Which may be Engliſhed in this manner following;

On foot in length, and ſlender all along,
Sometime of fiery hue, ſometime milk-white it is,
The neck bound in, and tayl moſt thin and ſtrong,
Whoſe fore-head hath two horns above cold eyes:

Which in their light reſemble ſhining beams,
Like Bees full wilde, or Locuſts ſpoylers bred,
But yet to look upon all horrible in ſeams,
For why? the cruel Bore they ſhew in head.

They keep in rocks, and ſtony places of the houſes and earth, making their dens winding and hanging, according to theſe Verſes;

Rimofas colit illa Petras, ſibique aſpera teſta,
Et modice pendens facit, inflexumque cubile.

In English thus;

The chinks of Rocks and paſſages in ſtone
They dwell, wherein their lodgings bare,
A little hanging made for every one,
And bending too their ſleepy harbours are.

It is ſaid that Canobus the Governour of Menelaus, chanced to fall upon this Serpent, in revenge whereof Helen his charge, the wife of Menelaus broke his back-bone, and that ever ſince that time they creep lamely, and as it were without loyns; which fable is excellently thus deſcribed by Nicander;

Quondam animoſa Helene cygni Jovis inclita proles
Everſa rediens Troia (niſi vana vultus)
Huic indignata eſt generi, Pharias ut ad oras
Venit, & adverſi declinans flamina venti,
Fluctivagam ſtatuit juxta Nili oſtia claſſem.
Namque ubi nauticus ſeſſum forte Canobus
Sterneret, et bibulis fuſus dormiret arenis:
Leſa venenofos Hemorrhoids impulit iſtus,

Illatamque tulit letali dente quietem:
Protinus ovipera cernens id filia Leda,
Oppreſſa medium ſerpenti ſervida dorſum
Infregit, tritaque excuſſit vincula ſpina,
Que fragili illius ſic dempta e corpore fugit,
Et graciles Hemorrhoids, obliquique Ceraſta
Ex hoc clauda trahunt jam ſoli tempore membra.

Which may be Engliſhed thus;

Once noble Helen, Joves childe by Swan-like ſhape,
Returning back from Troy, deſtroyed by Grecian war,
(If that our ancients do not with fables us beclap)
This race was envied by Pharias anger farre,
When to his ſhores for ſafety they did come,
Declining rage of bluſtring windy ſeas,
Water-biding-Navy at Nilus mouth gan run,
Where Canobus all tyred, fainted for ſome eaſe:
For there this Pilot, or Maſter of the Fleet,
Did haſt from boat to ſleep in dreary ſand,

Where he did feel the teeth of Hemorrhoids deep,
Wounding his body with poiſon, deaths own hand.
But when egge-breeding Ledaes wench eſpyed
This harm, ſhe preſt the Serpents back with ſtroke,
Whereby the bands thereof were all untied,
Which in juſt wrath for juſt revenge ſhe broke.
So ever ſince out of this Serpents frame
And body they are taken, which is the cauſe
That Ceraſts and lean Hemorrhoids are ever lame,
Drawing their parts on earth by natures lawes.

They which are ſtung with theſe Hemorrhoids, do ſuffer very intolerable torments, for out of the wound continually floweth bloud, and the excrements alſo that cometh out of the belly are bloody, or ſometimes little rouls of bloud in ſtead of excrements. The colour of the place bitten is black,

or

or of a dead bloody colour, out of which nothing floweth at the beginning but a certain watery humour, then followeth pain in the stomach, and difficulty of breathing. Lastly, the powers of the body are broken, and opened, so that out of the mouth, gums, ears, eyes, fingers ends, nayls of the feet, and privy parts, continually issueth blood, untill a cramp also come, and then followeth death, as we read in *Lucan* of one *Tullus* a young noble man, slain by this Serpent, described as followeth;

*Impressit dentes Hemorrhoids aspera Tullus
Magnanimo juveni, miratorique Catonis :
Uique solet pariter totis se effundere signis
Coricij pressura croci : sic omnia membra
Emisere simul rutilum pro sanguine virus.*

*Sanguis erant lachryma : quaecumque foramina novis
Humor, ab in largus manat cruor, ora redundant,
Et patulae nares, sudor rubet, omnia plenis
Membra fluunt venis : totum est pro vulnere corpus.*

In English thus;

*The Hemorrhoe fierce, in noble Tullus fastened teeth
That valiant youth, great Catoes scholar deer :
And as when Saffron by Corycians skeeth
Is prest, and in his colour on them all appear :
So all his parts sent forth a poyson red*

*In stead of blood : Nay all in blood went round.
Blood was his tears, all passages of it were sped,
For out of mouth and ears did blood abound.
Blood was his sweat, each part his vein out bleeds,
And all the body blood that one wound feeds.*

The cure of this Serpent, in the opinion of the Ancients, was thought impossible, as writeth *Di-
oscorides*, and thereof they complain very much, using only common remedies, as scarification,
unctions, sharp meats, and such things as are already remembred in the cure of the *Diplas*. But be-
sides these they use Vine-leaves, first bruised and then sod with Honey : they take also the head of
this Serpent and burn it to powder, and so drink it, or else Garlick with Oyl of Flower-de-luce,
they give them also to eat Raisins of the Sun. And besides, they resist the eruption of the blood,
with plaisters laid to the place bitten, made of Vine-leaves and Honey. or the leaves of Purslane and
Barley-meal. But before their urine turn bloody, let them eat much Garlick stamped, and mixed
with Oyl to cause them to vomit, and drink wine delayed with water, then let the wound be washed
with cold water, and the bladder continually fomented with hot Spunges. Some do make the
cure of it like the cure of the Viper, and they prescribe them to eat hard Egges with Salt fish, and
besides, the seed of Radish, the juice of Poppy, with the roots of Lilly, also Daffadil, and Rue,
Trefolie, Cassia, Opoponax, and Cinnamon in potion : and to conclude, the flowers and buds
of the bush are very profitable against the biting of the Hemorrhoe, and so I end the history of
this Serpent.

Of the Horned SERPENT.



THis Serpent because of his Horns (although it be a kinde of Viper) is called in *Greek* *Ker-
astes*, and from thence cometh the *Latine* word *Cerastes*, and the *Arabian*, *Cerust*, and *Ce-
rustes*. It is called also in *Latine*, *Ceristalis*, *Cristalis*, *Sirtalis*, and *Tristalis*. All which are cor-
rupted words, derived from *Cerastes*, or else from one another, and therefore I think it not fit to
stand upon them. The *Hebrewes* call it *Schephiphon*, the *Italians*, *Cerastes*, the *Germans*, *En gekurnte
schlang*; the *French*, *Un Ceraste*, *un serpent Cornu*, that is, a horned Serpent; and therefore I have so
called it in *English*, imitating herein both the *French* and *Germans*.

I will not stand about the difference of Authors, whether this Serpent be to be referred to the
Asps or to the Vipers, for it is not a point materiall, and therefore I will proceed to the description
of his nature, that by his whole history, the Reader may choose whether he will account him a
subordinate kinde unto others, or else a principall of himself. It is an *African* Serpent, bred in the
Lybian sandy seas, places not inhabited by men, for the huge Mountains of sands are so often
moved by the windes, that it is not only impossible for men to dwell there, but also very dange-
rous and perilous to travel through them, for that many times whole troops of men and cat-
tell, are in an instant overwhelmed and buried in those sands. And this is a wonderfull work
of

of God, that those places which are least habitable for man, are most of all annoyed with the most dangerous biting Serpents.

It is also said, that once these Horned Serpents departed out of *Lybia* into *Egypt*, where they depopulated all the Countrey. Their habitation is neer the high-ways, in the sands, and under Cart-wheels: and when they goe, they make both a sound with their motion, and also a furrow in the earth, according to the saying of *Nicander*;

*Ex his alter echis velocibus obvia spinis,
Recto terga tibi prolixum tram te ducit,
Sed medio diffusum hic cerasites se corpore volvit:
Curvum errans per iter, resonantibus aspera squamis.*

Which may be Englished thus;

*Of these the Viper with swift bones thee meets,
Trayling her back in path direct and strait,
The Cerafit more diffused in way thee greets
With crooked turning, on scales make sounds full great:*

*Qualiter equoreo longissima gurgite navis,
Quam violentus agit nunc huc, nunc Africum illuc,
Pellitur, et laterum gemebunda fragore furum
Extra sulcandas sinuos fluctuat undas.*

*Like as a ship tossed by the Western winde,
Sounds as farre off, moved now here, now there,
So that by voyse of shrilling sides we finde
His furrowes turned in Seas and water sphere.*

The quantity of this horned Serpent is not great, it exceedeth not two cubits in length; the colour of the body is branded like sand, yet mingled with another pale white colour, as is to be seen in a Hares skin. Upon the head there are two horns, and sometimes four, for which occasion it hath received the name *Cerasites*, and with these horns they deceive Birds; for when they are hungry, they cover their bodies in sand, and only leave their horns uncovered to move above the earth, which when the Birds see, taking them to be Worms, they light upon them, and so are devoured by the Serpent. The teeth of this Serpent are like the teeth of a Viper, and they stand equall, and not crooked: In stead of a back-bone they have a gristle throughout their body, which maketh them more flexible and apt to bend every way: for indeed they are more flexible then any other Serpent. They have certain red strakes crosse their back, like a Crocodile of the earth, and the skins of such as are bred in *Egypt* are very soft, stretching like a Cheverell-glove, both in length and breadth, as it did appear by a certain skin taken off from one being dead; for being stuffed with Hay, it shewed much greater then it was being alive, but in other Countreys the skins are not so.

I have heard this History of three of these Serpents brought out of *Turkey*, and given to a Noble man of *Venice* alive, who preserved them alive in a great Glasse (made of purpose) upon sand, in that Glasse neer the fire: The description as it here followeth, was taken by *John Faltoner*, an *English* Travailer, saying They were three in number, whereof one was thrice so big as the other two, and that was a female, and she was said to be their Mother: she had laid at that time in the sands four or five Egges, about the bignesse of Pigeons Egges. She was in length three foot, but in breadth or quantity almost so big as a mans Arm: her head was flat, and broad as two fingers, the apple of the eye black, all the other part being white.

Out of her eye-lids grew two horns, but they were short ones, and those were truly Horns, and not flesh. The neck compared with the body was very long and small, all the upper part of the skin was covered with scales, of ash-colour, and yet mixed with black. The tail is at it were brown when it was stretched out. And this was the description of the old one: the other two being like to her in all things, except in their horns, for being small, they were not yet grown. Generally, all these horned Serpents have hard dry scales upon their belly, wherewithall they make a noyse when they go themselves, and it is thus described by *Nicander*;

*Nunc potes actutum, insidiatoremque Cerasiten
Noscere, vipereum veluti genus, huic quia dispar
Non is corpus habet, sed quatuor aut duo profert*

*Cornua, cum mutila videatur Vipera fronte.
Squalidus albenti color est.*

In English thus;

*You well may know the treacher Cerasits noyse,
A Viper-kinde, whose bodies much agree,
Yet these four horns and brandy colour, poyse,
Where Viper none, but forehead plain we see.*

There is no Serpent except the Viper that can so long indure thirst as this horned Serpent, for they seldome or never drink; and therefore I think they are of a Vipers kinde: for besides this also it is observed, that their young ones do come in and out of their bellies as Vipers doe: They live in hatred with all kinde of Serpents, and especially with Spiders. The Hawes of *Egypt* also do destroy horned Serpents and Scorpions: but about *Thebes* in *Egypt* there are certain sacred Snakes (as they are termed) which have horns on their head, and these are harmlesse unto men and beasts, otherwise all these Serpents are virulent and violent against all creatures, especially men: yet there be certain men in *Lybia* called *Pfills*, which are in a league, or rather in a naturall concord with horned Serpents. For if they be bitten by them at any time, they receive no hurt at all: and besides, if they be brought unto any man that is bitten with one of these Serpents, before the poyson be spread all over his body, they help and cure him, for if they finde him but lightly hurt, they only spit upon the wound, and so mitigate the pain, but if they finde him more deeply hurt, then

then they take much water within their teeth, and first wash their own mouth with it, then spit out the water into a pot, and make the sick man to drink it up. Lastly, if the poyson be yet strong, they lay their naked bodies upon the naked poysoned body, and so break the force of the poyson. And this is thus described by the Poet, saying,

*Audivi Lybicos Pſyllor, quos aspera Siris
Serpentumque ferax patria alit populos,
Non ita in inflicium diro, morſuve venenum*

*Ledere: quin læſis ferre & opem reliquis,
Non vi radicam proprio, ſed corpore juncto.*

That is to ſay,

*The Lybian Pſylli, which Serpent-breeding Syrtes dwell
As I have heard, do cure poyſon, ſtings, and bites,
Nor hurt themſelves, but it in other quell:
By no roots force, but joyning bodies quites.*

When a horned Serpent hath bitten a man or beaſt, firſt about the wound there groweth hardneſſe, and then puſtules. Laſtly, black, earthy and pale matter: the genital member ſtandeth out ſtraight and never falleth, he falleth mad, his eyes grow dim, and his nerves immanuable, and upon the head of the wound groweth a ſcab like the head of a Nail, and continually pricking, like the pricking of Needles: And becauſe this Serpent is immoderately dry, therefore the poyſon is moſt pernicious; for if it be not holpen within nine dayes, the patient cannot eſcape death. The cure muſt be firſt by cutting away the fleſh unto the bone, where the wound is, or elſe the whole member if it can be, then lay upon the wound Goats dung ſod with Vinegar or Garlike, and Vinegar or Barley-meal, or the juice of Cedar, Rue, or Nep, with Salt and Honey, or Pitch, and Barley-meal, and ſuch-like things outwardly: inwardly Daffadil and Rue in drink, Radish-ſeed, Indian Cummin, with wine and *Caſtoreum*, and alſo Calamint, and every thing that procureth vomit. And thus much for the deſcription of the Horned Serpent.

Of the HYENA.

There be ſome that make queſtion whether there be any ſuch Serpent as this or no, for it is not very like that there is any ſuch, and that this Hyæna is the ſelf ſame which is deſcribed to be a Four-footed Beaſt, for that which is ſaid of that, is likewiſe attributed to this: namely, that it changeth ſex, being one yeer a male, another yeer a female, and that the couples which ſeem to be marryed together, do by continuall entercourſe, bring forth their young ones, ſo that the male this yeer is the female next yeer, and the female this yeer is the male next yeer. And this is all that is ſaid of this Serpent.

Of the HYDRA, ſuppoſed to be killed by Hercules.

The Poets do ſain, that neer to the Fountain *Amymona*, there grew a Plantain, under which was bred a Hydra which had ſeven heads: whereof one of theſe heads was ſaid to be immortal: with this Hydra *Hercules* did fight, for there was in that immortal head ſuch a poyſon as was incurable; wherewithall *Hercules* moyſtened the head of his Darts after he had killed it: and they ſay, that while *Hercules* ſtruck off one of theſe heads, there ever aroſe two or three more in the room thereof, untill the number of fifty, or as ſome ſay, fourſcore and ten heads were ſtrucken off: and becauſe this was done in the fenne of *Lerna*, therefore there grew a Proverb of *Lerna malorum*, to ſignifie a multitude of unrefiſtable evils.

And ſome ignorant men of late dayes at *Venice*, did picture this Hydra with wonderfull Art, and ſet it forth to the people to be ſeen, as though it had been a true carkaſe, with this inſcription. In the year of Chriſts incarnation, 550. about the moneth of *January*, this monſtrous Serpent was brought out of *Turkey* to *Venice*, and afterwards given to the *French King*; it was eſteemed to be worth 6000. Ducats. Theſe Monſters ſignifie the mutation or change of worldly affairs, but (I truſt ſaid the Author of the inſcription, who ſeemed to be a *German*) the whole Chriſtian World is ſo afflicted, that there is no more evil that can happen to the Chriſtian World, except deſtruction; and therefore I hope that theſe Monſters do not foreſhew any evil to the Chriſtians. Therefore ſeeing the *Turkiſh Empire* is grown to that height, in which eſtate all other former Kingdomes fell, I may divine and prophesie, that the danger threatned hereby, belongeth to the *Turks*, and not unto us, in whoſe Government this Monſter was found to be bred: and the hinder part of his head ſeemeth to reſemble a *Turks Cap*. Thus far this inſcribing Diviner. But this fellow ought firſt of all to have enquired about the truth of this Picture, whether it were ſincere or counterfeit, before he had given his judgement upon it: For that there ſhould be ſuch a Serpent with ſeven heads, I think it unpoſſible, and no more to be beleevd and credited, then that *Cæſar* and *Pollux* were conceived in an Egge, or that *Pluto* is the GOD of Hell, or that armed men were created out of Dragons teeth, or that *Vulcan* made *Achilles* his Armour, or that *Venus* was wounded by *Diomedes*; or that *Ulyſſes* was carryed in Bottles, ſo true I think is the ſhape of this Monſter: for

the head, ears, tongue, nose, and face of this Monster, do altogether degenerate from all kinds of Serpents, which is not usuall in Monsters, but the fore-parts do at most times resemble the kinde to which it belongeth; and therefore if it had not been an unskillfull Painters device, he might have framed it in a better fashion, and more credible to the world. But let it be as it is, how doth he know that this evil doth more belong to the *Turks* then to the Christians? For shall we be so blinde and flatter our selves so far, as not to acknowledge our sins, but to lay all the tokens of judgement upon our adversaries? But if there appeared in us any repentance or amendment of those faults, for which God hath suffered in his justice, that impious Tyrant and Tyrannicall Government to prevail against Christians, then we might think that GOD would look mercifully upon us, and avert his wrath from us upon our enemies. But with sorrow and grief be it spoken, all the Kings and people of *Christendome*, do directly go forward without stumbling in those vile courses, and odious crying sins, for which God hath set up the *Turks* against former ages, and therefore we have no cause to hope that ever this rod shall be cast into the fire, untill the chastisement of Gods children have procured their amendment, and if no amendment, then all the powers of heaven (the blessed Trinity excepted) cannot keep *Christendome* from ruine and destruction, which God of his infinite mercy turn away from us.



To turn again to the story of the Hydra, I have also heard, that in *Venice* in the Dukes treasury, among the rare Monuments of that City, there is preserved a Serpent with seven heads, which if it be true, it is the more probable that there is a Hydra, and then the Poets were not altogether deceived, that say, *Hercules* killed such a one. This Hydra which *Hercules* slew, they say was ingendred betwixt *Echidna* and *Typhaon*, and nourished by *Juno* in *Lerna*, in hatred of *Hercules*: and they say further, that when he came to kill it, there came a Crab or Cancer to help the Hydra against *Hercules*, who instantly called upon *Iolau* for help, and so *Iolau* slew the Crab, and *Hercules* the Hydra.

Phaepatus maketh the story of *Hercules* by killing the Hydra, to be a meer allegory, saying, that the Hydra was a Castle kept by fifty men, the King whereof was called *Lernus*, who was assisted by a Noble man (called *Cancer*) against the assaults of *Hercules*, and that *Hercules* by the help of *Iolau*, King of the *Thebanes*, overcame that King and Castle. Other say, that *Lerna* and *Hydra* signifie the two kinds of Envy, distinguished by *Invidia*, and *Invidentia*, in himself, which arise out of the monstrous filthy fenne of humane corruption, like a monstrous hideous Dragon, with whom he strove, and as he struck off one head or tentation, so two or three other continually arose in the room thereof. And thus much for the Hydra, whether it be true or fabulous.

Of innocent SERPENTS.

I Doe read of two kinds of innocent Serpents, one called *Lybies*, because they are only in *Africk*, and never do hurt unto men, and therefore *Nicaner* was deceived, which maketh this kinde of Serpent to be the same with the *Am-dyte*, whose sting or teeth are very mortall and deadly. There be also other kinds of harmlesse Serpents, as that called *Molurus*, *Mustaca*, and *Mylacris*, which is said to go upon the tail, and it hath no notable property, except that one thing which giveth it the name, for *Molurus* is derived from *Molis Ourin*, that is hardly making water.

There be also domesticall innocent Serpents, *Myagrus*, *Orophia*, and *Spithiurus*, which whether they be one kinde or many, I will not stand upon, for they are all termed by the *Germans*, *Hussunck*, and *Husschlang*; that is, a House-snake. They live by hunting of Mice, and Weasels, and upon their heads they have two little ears, like to the ears of a Mouse, and because they be as black as coals, the *Italians* call them *Sirpe nero*, and *Carbon*, and *Garabonazzo*, and the *French-men*, *Anguille de Hay*, that is, a Snake of hedges. There be some that nourish them in Glasses with branne, and when they are at liberty they live in Dung-hills also, wherein they breed sometimes, they have been seen to suck a Cow, for then they twist their tails about the Cowes legs. *Matthiolus* writeth, that the flesh of this Snake, when the head, tail, intrails, fat, and gall are cut off and cast away, to be a speciall remedy against the French-pox.

There are also other kinds of Innocent Serpents, as that called *Parea*, and in *Italy* *Baron*, and *Pagerina*, which are brought out of the East, where these are bred. There be no other harmfull Serpents in that Countrey. They are of a yellow colour like Gold, and about four spans long: upon either side they have two lines or strakes, which begin about a hand breadth from their neck, and end at their tail. They are without poyson as may appear by the report of *Gesner*, for he did see a man hold the head alive in his hand. And thus much shall suffice to have spoken of Innocent Serpents.

Of the LIZARD.



Although there be many kinds of Lizards, yet in this place I will intreat first of the vulgar Lizard, called in the *Hebrew* *Letaab*, *Lanigermasha*, *Lyjerda*, *Carbo*, *Pelipab*, and *Eglose*; the *Chaldeans*, *Haltetba*, and *Humera*; the *Arabians*, *Ataia*, *Albathae*, or *Albadaie*, *Hardun*, *Arab*, *Samabras*, *Saambras*; the *Grecians* in ancient time *Sauros*, and *Saura*, and vulgarly at this day *Kolisaura*; the *Italians* in some places, *Liguro*, *Leguro*, *Lucerta*, and *Lucertula*; about *Trent*, *Racani*, and *Ramarri*, and yet *Romarro* is also used for a Toad; the *Spaniards*, *Lagarto*, *Lacerta*, *Lagartisa*, and *Lagaruixa*; the *French*, *Lisarde*; the *Germans*, *Adax*, and when they distinguish the male from the female, they expresse the male, *Ein Egochs*, and the female, *Egles*; in *Hessia*, *Lydelstch*; in *Flanders* and *Ilyria*, *Gessierka*, and *Gessiter*; the *Latines*, *Lacertus*, and *Lacerta*, because it hath arms and shoulders like a man, and for this cause also the Salamander, the Stellion, the Crocodile, and Scorpions are also called sometimes *Lacerti*, Lizards. And thus much shall suffice for the name.

The vulgar Lizard is described on this sort; the skin is hard and full of scales, according to this saying of *Virgil*;

Absint & picti squalentia terga Lacerti.

In English thus;

Those put away

And painted Lizards with their scaly backs.

The colour of it is pale, and distinguished with certain rusty spots, as *Pliny* writeth, with long strakes or lines to the tail; but generally they are of many colours, but the green with the white belly living in bushes, hedges, and is the most beautifull, and most respected; and of this we shall peculiarly intreat hereafter. There have been some Lizards taken in the beginning of September,

whose colour was like Brasse, yet dark and dusky, and their belly partly white, and partly of an earthy colour, but upon either side they had certain little pricks or spots like printed Starres: their length was not past four fingers, their eyes looked backward and the holes and passages of their ears were round, the fingers of their feet were very small, being five in number, both before and behind, with small nails, and behind that was the longest which standeth in the place of a mans fore-finger, and one of them standeth different from the other, as the thumb doth upon a mans hand, but on the forefeet all of them stand equall, not one behinde or before another.

These little Lizards do differ from the Stellions in this; that they have blood in their veins, and they are covered with a hard skin, winking with the upper eye-lid. All manner of Lizards have a cloven tongue, and the top thereof is somewhat hairy, or at the least wise divided like the fashion and figure of hair. Their teeth are also as small as hair, being black, and very sharp, and it seemeth also they are very weak, because when they bite, they leave them in the wound. Their lungs are small and dry, yet apt to swell and receive winde by inflammation: their belly is uniform and simple, their intrails long, their Milt round round and small, and their stones cleave inwardly to their loyns: their tail is like the tail of a Serpent; and it is the opinion of *Aristotle*, that the same being cut off, groweth again. The reason whereof is given by *Cardan*, because imperfect creatures are full of moistnesse; and therefore the parts cut off do easily grow again. And *Pliny* reporteth that in his dayes he saw Lizards with double tails, whereunto *Americus Vespusius* agreeth, for he saith, that he saw in a certain Island not far from *Liabon*, a Lizard with a double tail. They have four feet, two behinde and two before, and the former feet bend backward, and the hinder feet forward, like to the knees of a man.

Avicenna.

Now concerning the different kinds of Lizards, I must speak as briefly as I can in this place, wherein I shall comprehend both the Countreys wherein they breed, and also their severall kinds, with some other accidents necessary to be known. There is a kinde of Lizard called *Guarell*, or *Viell*, and *Alguarill*, with the dung whereof the Physicians do cure little pimples and spots in the face, and yet *Bellunensis* maketh a question, whether this be to be referred to the Lizards or not, because Lizards are not found but in the Countrey, out of Cities, and these are found every where.

Marcellus.

There is also another kinde of Lizard called *Lacertus Martensis*, which being salted, with the head and purple Wooll, Oyl of Cedar, and the powder of burnt Paper, so put into a linnen cloth, and rubbed upon a bald place, do cause the hair that is fallen off to come again. There be other Lizards, called by the *Grecians Arura*, and by the *Latines*, *Lacerta Pissinina*, which continually abide in green corn; these burned to powder, and the same mixed with the best wine and honey, do cure blinde eyes by an oyntment.

Albertus writeth, that a friend of his worthy of credit, did tell him that he had seen in *Provence*, a part of *France*, and also in *Spain*, Lizards as big as a mans leg is thick, but not very long, and these did inhabit hollow places of the earth, and that many times when they perceived a man or beast pass by them, they would suddenly leap up to his face, and at one blow pull off his cheek. The like also is reported of *Piemont* in *France*, where there be Lizards as great as little Puppies, and that the people of the Countrey do seek after their dung or excrements, for the sweetnesse and other vertues thereof.

Strabo.
Solinus.

In *Lybia* there are Lizards two cubits long, and in one of the Fortunate Islands called *Capraria*, there are also exceeding great Lizards.

In the Island of *Dioscorides*, neer to *Arabia* the lesser, there are very great Lizards, the flesh whereof the people eat, and the fat they see the, and use in stead of Oyl: these are two cubits long, and I know not whether they be the same which the *Africans* call *Dubb*, and live in the deserts of *Lybia*. They drink nothing at all, for water is present death unto them, so that a man would think that this Serpent were made all of fire, because it is so presently destroyed with water. Being killed there cometh no blood out of it, neither hath it any poyson but in the head and tayl. This the people hunt after to eat, for the taste of the flesh is like the taste of Frogs flesh, and when it is in the hole or den, it is very hardly drawn forth, except with spades and mattocks, whereby the passages are opened, and being abroad it is swift of foot.

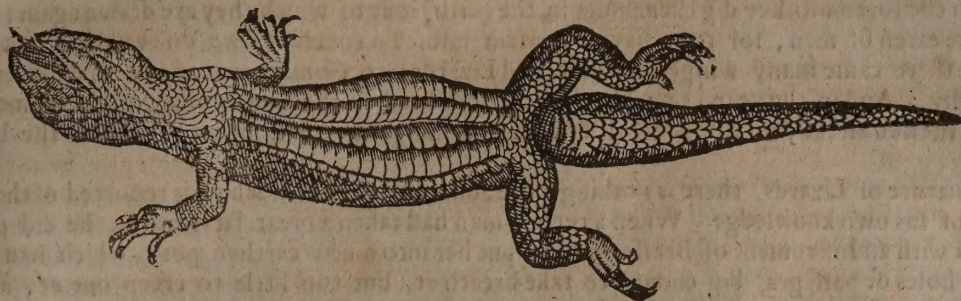
Ælianus.
Polycletus.

The Lizards of *India*, especially about the Mountain *Nisa*, are 24 foot in length, their colour variable, for their skin seemeth to be flourished with certain pictures, soft and tender to be handled. I have heard that there hangeth a Lizard in the Kings house at *Paris*, whose body is as thick as a mans body, and his length or stature little lesse; it is said it was taken in a prison or common Gaole, being found sucking the legs of prisoners: and I do the rather beleieve this, because I remember such a thing recorded in the Chronicles of *France*, and also of another somewhat lesser, preserved in the same City, in a Church called *Saint Antonies*. And to the intent that this may seem no strange nor incredible thing, it is reported by *Volaterran*, that when the King of *Portugall* had conquered certain Islands in *Æthiopia*, in one of them they slew a Lizard, which had devoured or swallowed down a whole infant, so great and wide was the mouth thereof: it was eight cubits long, and for a rare miracle it was hanged up at the gate *Flumentana* in *Rome*, in the roof, and dedicated to the Virgin *Mary*. Besides these, there are other kinde of Lizards, as that called *Lacerta vermicularis*, because it liveth upon Worms and Spiders, in the narrow walls of old buildings. Also a silver-coloured Lizard, called *Liacome*, living in dry and sun-shining places. Another kinde called *Senabron*, and *Adare*, and *Sennekie*. *Scen* is a red Lizard, as *Silvaticus* writeth, but I rather take it to be the Scinck, or Crocodile of the earth, which abound neer the red Sea.

There

There is also another kinde of Lizard called *Lacertus Solaris*, a Lizard of the Sun, to whom *Epiphanius* compareth certain Hereticks called *Sampsai*, because they perceive their eye-sight to be dim and dull. They turn themselves fasting in their Caves to the East, or Sun-rising, whereby they recover their eye-sight again.

The picture of the Lizard with the belly upward.



In *Sarmatia*, a Countrey of the *Rutenes*, there is a Province called *Samogithia*, wherein the Lizards are very thick, black, and great, which the foolish Countrey people do worship very familiarly, as the Gods of good fortune; for when any good befallerh them, they entertain them with plentiful banquets and liberal chear: but if any harm or mischance happen unto them, then they withdraw that liberality, and intreat them more courselly, and so these dizzardly people think to make these Lizards by this means, more attentive and vigilant for their welfare and prosperity.

In the Province of *Cataia*, subject to the *Tartars*, there are very great Lizards, (or at least wise Serpents like Lizards) bred, containing in length ten yards, with an answerable and correspondent compasse and thicknesse.

Some of these want their fore-legs, in place whereof they have claws like the claws of a Lyon, or talons of a Falcon. Their head is great, and their eyes are like two great loaves. Their mouth and the opening thereof so wide, as it may swallow down a whole man armed, with great, long, and sharp teeth, so as never any man or other creature durst without terror look upon that Serpent. Wherefore they have invented this art or way to take them.

The Serpent useth in the day time to lie in the Caves of the earth, or else in hollow places of Rocks and Mountains. In the night time it cometh forth to feed, ranging up and down seeking what it may devour, neither sparing Lyon, Bear, nor Bull, or smaller beast, but eateth all he meeteth with until he be satisfied, and returneth again to his den. Now for as much as that Countrey is very soft and miry: the great and heavy Bulk of this Serpent maketh as it were a Ditch by his weight in the sand or mire, so as where you see the trailing of his body, you would think there had been rowled some great vessel full of Wine, because of the round and deep impression it leaveth in the earth.

Now the Hunters which watch to destroy this beast, do in the day time fasten sharp stakes in the earth, in the path and passage of the Serpent, especially neer to his hole or lodging, and these stakes are pointed with sharp Iron, and so covered in the earth or sand, whereby it cometh to passe, that when in his wonted manner he cometh forth in the night season to feed, he unawares fastneth his breast, or else mortally woundeth his belly upon one of those sharp-pointed stakes. Which thing the Hunters lying in wait observing, do presently upon the first noise with their swords kill him if he be alive, and so take out his gall which they sell for a great price, for therewithal the biting of a mad Dog is cured, and a woman in travel tasting but a little of it, is quickly discharged of her burthen. It is good also against the Hemroids and Piles. Furthermore, the flesh of this Serpent is good to be eaten, and these things are reported by *Paulus Venetus*, and this story following.

As *Americus Vesputus* sayled in his journey from the Fortunate Islands, he came unto a Countrey where he found the people to feed upon sod flesh, like the flesh of a serpent, & afterwards they found this beast to be in all things like a Serpent without wings, for they saw divers of them alive, taken and kept by the people to kill at their own pleasure. The mouths whereof were fast tyed with ropes, so as they could not open them to bite either man or beast, and their bodies were tyed by the legs. The aspect of these beasts was fearful to his company, and the strangers which did behold it, for they took them to be Serpents, being in quantity as big as Roe-bucks, having long feet and strong claws, a speckled skin, and a face like a Serpent: from the nose to the tip of his tail, all along the back there grew a bristle, as it were the bristle of a Bore, and yet the said Nation feedeth upon them, and because of their similitude with Lizards, I have thought good to insert their relation among the Lizards in this place, leaving it to the further judgement of the Reader, whether they be of this kinde or not.

In *Calechut* there are Serpents also, or rather beasts remaining in the fenny places of the Countrey, whose bodies are all pild without hair like Serpents: also in their mouth, eyes, and tail they resemble them, and in their feet Lizards, being as great as Boars, and although they want poyson, yet are their

their teeth very hurtful where they fasten them. Like unto these are certain others bred in *Hispaniola*, in an Island called *Hyvona*, having prickles on their back, and a comb on their head, but without voyce having four feet, and a tail like Lizards, with very sharp teeth. They are not much greater then Hares or Conies, yet they live indifferently in trees, and on the earth, being very patient, and induring famine many days. Their skin smooth and speckled like a Serpents, and they have a crap on the belly from the chin to the breast, like the crap of a Bird.

Besides these, there are also some called *Barbati*, about the bignesse of Conies, and of a white ash colour, yet their skin and tail like a Snakes, and they resemble trapped Horses. They have four feet, and with the foremost they dig them holes in the earth, out of which they are drawn again like Conies to be eaten of men, for they have a pleasant tast. To conclude, we do read that in the year 1543. there came many winged Serpents and Lizards into *Germany*, neer *Syria*. and did bite many mortally: And in the year 1551. there were such bred in the bodies of men and women, as we have shewed already in the general discourse of Serpents, first of all recited in the beginning.

In all the nature of Lizards, there is nothing more admirable then that which is reported of them by *Aelianus* of his own knowledge. When a certain man had taken a great fat Lizard, he did put out her eyes with an Instrument of Brasse, and so put her into a new earthen pot, which had in it two small holes or passages, big enough to take breath at, but too little to creep out at, and with her moist earth and a certain herb, the name whereof he doth not expresse: and furthermore, he took an Iron Ring, wherein was set an *Engagataes* Stone, with the Picture of a Lizard ingraven upon it. And besides, upon the Ring he made nine several marks, whereof he put out every day one, until at the last he came at the ninth, and then he opened the pot again, and the Lizard did see as perfectly as ever he did before the eyes were put out: whereof *Albertus* enquiring the reason, could give none, but having read in *Isidorus*, that when the Lizards grow old and their sight dim or thick, then they enter into some narrow hole of a Wall, and so set their heads therein, directly looking towards the East or Sun-rising, and so they recover their sight again. Of this *Albertus* giveth good reason, because he saith, the occasion of their blindness cometh from frigidicy congealing the humor in their eyes, which is afterward attenuated and dissolved by the help and heat of the Sun. The voyce of the Lizard is like the voyce of other Serpents, and if it happen that any man by chance do cut the body of the Lizard asunder, so as one part falleth from another, yet neither part dyeth, but goeth away the upon two legs that are left, and live apart for a little season, and if it happen that they meet again, they are so firmly and naturally conjoynd by the secret operation of nature, as if they had never been severed, only the scar remaineth.

They live in caves of the earth, and in graves, and the green Lizards in the fields and Gardens, but the yellowish or earthy brown Lizard among hedges and thorns. They devour any thing that comes to their mouth, especially Bees, Emmets, Palmer-worms, Grasshoppers, Locusts, and such like things, and four months of the year they lie in the earth and eat nothing.

In the beginning of the year about *March*, they come out again of their holes, and give themselves to generation, which they perform by joyning their bellies together, wreathing their tails together, and other parts of their bodies; afterwards the female bringeth forth Egges, which she committeth to the earth, never sitting upon them, but forgetteth in what place they were laid (for she hath no memory.) The young ones are conceived of themselves, by the help of the Sun. Some there be which affirm that the old one devoureth the young ones as soon as they be hatched, except one which she suffereth to live, and this one is the basest and most dullard, having in it least spirit of all the residue: yet notwithstanding, afterwards it devoureth both his parents, which thing is proved false by *Albertus*, for seeing they want memory to finde out their own Egges, it is not likely that they have so much understanding as to discern their own young ones, nor yet so unnatural as to destroy the noblest of their brood, but rather they should imitate the Crocodile, which killeth the basest and spareth the best spirits.

It is affirmed, that they live but half a year or six months, but it is also false, for they hide themselves the four coldest moneths; and therefore it is likely that they live more then six, for else what time should they have for generation? Twice a year they change their skin, that is in the Spring and Autumn, like other Serpents that have a soft skin, and not hard like the Tortoises. Their place of conception and emission of their Egges is like to Birds: and therefore it is a needlesse question to enquire whether they bring egges forth of their mouth or not, as some have foolishly affirmed, but without all warrant of truth or nature.

They live by couples together, and when one of them is taken, the other waxeth mad, and rageth upon him that took it, whether it be male or female: In the Old Testament Lizards, Weasels, and Mice are accounted impure beasts, and therefore forbidden to be eaten, not only because they live in Graves and design inconstancy of life, but also theeves and treacherous persons. They are afraid of every noise, they are enemies to Bees, for they live upon them; and therefore in ancient time they mixed Meal and juyce of Mallows together, and laid the same before the Hives, to drive away Lizards and Crocodiles. They fight with all kinde of Serpents; also they devour Snails, and contend with Toads and Scorpions. The Night-owls and Spiders do destroy the little Lizards, for the Spider doth so long winde her thred about the jaws of the Lizard, that he is not able to open his mouth, and then she fasteneth her fangs in her brains. The Storks are also enemies to Lizards, according to this saying of the Poet;

— Ser—

— *Serpente citonia pullos*
Nutrit & inventa per devia rura lacerta.
 In English thus;
With Lizards young and Serpents breed,
The Stork seeketh her young ones to feed.

Notwithstanding, that by the law of God, men were forbidden to eat the Lizard, yet the *Troglodites*, *Ethiopians*, did eat Serpents and Lizards, and the *Amazons* did eat Lizards and Tortoises, for indeed those women did use a very thin and slender diet; and therefore *Cælius* doth probably conjecture, that they were called *Amazons*, because *Mazis carebant*, that is, they wanted all manner of delicate fare. We have also shewed already, that the Inhabitants of *Dioscorides* Isle, do eat the flesh of Lizards, and the fat after it is boyled, they use in stead of Oyl.

Concerning the venom or poyson of Lizards, I have not much to say, because there is not much thereof written: yet they are to be reprov'd which deny they have any poyson at all, for it is manifest, that the flesh of Lizards eaten, (I mean of such Lizards as are in *Italy*,) do cause an inflammation and apostumation, the heat of the head-ach, and blindenesse of the eyes. And the Egges of Lizards do kill speedily, except there come a remedy from Faulkons dung and pure Wine. Also when the Lizard biteth, he leaveth his teeth in the place, which continually aketh, until the teeth be taken out: the cure of which wound is first to suck the place, then to put into it cold water, and afterward to make a plaister of Oyl and Ashes, and apply the same thereunto. And thus much for the natural description of the Lizard.

The medicines arising out of the Lizard, are the same which are in the Crocodile, and the flesh thereof is very hot: wherefore it hath vertue to make fat, for if the fat of a Lizard be mixed with Wheat-meal, Halinitre, and Cumin, it maketh Hens very fat, and they that eat them much fatter: for *Cardan* saith, that their bellies will break with fatnesse, and the same given unto Hawks, maketh them to change their feathers.

A Lizard dissected, or the head thereof being very well beaten with Salt, draweth out Iron points of nails, and splents out of the flesh or body of man, if it be well applyed thereunto, and it is also said, that if it be mingled with Oyl, it causeth hair to grow again upon the head of a man, where an Ulcer made it fall off. Likewise a Lizard cut asunder hot, and so applyed, cureth the stinging of Scorpions, and taketh away Wens. Marcellus.

In ancient time with a Field-lizard dryed and cut asunder, and so bruised in pieces, they did draw out teeth without pain; and with one of these sod and stamped, and applyed with Meal or Frankincense to the fore-head, did cure the watering of the eyes.

The same burned to powder, and mixed with Cretick Hony by an Ointment, cureth blindenesse. The Oyl of a Lizard put into the ear, helpeth deafnesse, and driveth out Worms if there be any therein. If children be anointed with the blood fasting, it keepeth them from swellings in the belly and legs: also the liver and blood lapped up in Wooll, draweth out nails and thorns from the flesh, and cureth all kinde of freckles, according to this verse of *Serenus*;

Verrucam poterit sanguis curare Lacerta.
 That is to say;
The blood of Lizards can,
Cure freckles in a man.

The urine (if there be any at all) helpeth the Rupture in Infants. The bones taken out of the Lizards head in the full Moon, do scarifie the teeth, and the brain is profitable for suffusions: The liver laid to the gums, or to hollow teeth, easeth all pain in them. The dung purgeth wounds, and also taketh away the whitenesse and itching of the eyes, and so sharpneth the sight, and the same with water, is used for a salve. *Arnoldus* doth much commend the dung of Lizards mixed with Meal, the black thereof being cast away, and so dryed in a furnace, and softned again with water of Nitre, and froth of the Sea, afterwards applyed to the eyes in a cloth, is very profitable against all the former evils. And thus much shall suffice to have spoken of the first and vulgar kinde of Lizard: for killing of whom *Apollo* was in ancient time called *Saurotonos*.

Of the GREEN LIZARD.

THE greater Lizard which is called *Lacerta Viridis*, the green Lizard, by the *Grecians*, *Chlorosaura*; by the *Italians*, *Gez*, and by the *Germans*, *Gruener Heydix*, is the same which is called *Ophiomachus*, because it fighteth with Serpents in the defence of man. They are of colour green, from whence they are named, and yet sometimes in the Summer they are also found pale. They are twice so big as the former Lizard, and come not neer houses, but keep in Meadows and green fields. They only abound in *Italy*, and it is a beast very loving and friendly unto man, and an enemy to all other Serpents. For if at any time they see a man, they instantly gather about him, and laying their heads at the one side, with great admiration behold his face: and if it chance a man do spit, they lick up the spittle

spittle joyfully, and it hath been seen that they have done the like to the urine of children, and they are also handled of children without danger, gently licking moisture from their mouths. And if at any time three or four of them be taken, and so set together to fight, it is a wonder to see how eagerly they wound one another, and yet never set upon the man that put them together.



If one walk in the fields by hollow ways, bushes, and green places, he shall hear a noise, and see a motion as if Serpents were about him, but when he looketh earnestly upon them, they are Lizards wagging their heads, and beholding his person: and so if he go forward they follow him, if he stand still they play about him. One day (as *Erasmus* writeth) there was a Lizard seen to fight with a Serpent in the mouth of his own Cave, and whilest certain men beheld the same, the Lizard received a wound upon her cheek by the Serpent, who of green, made it all red, and had almost torn it all off, and so hid herself again in her den. The poor Lizard came running unto the beholders, and shewed her bloody side, as it were desiring help and commiseration, standing still when they stood still, and following when they went forward, so that it acknowledged the sovereignty of man, appealing unto him as the chief Justice, against all his enemies and oppressors.

It is reported by the *Italians*, that many times while men fall asleep in the fields, Serpents come creeping unto them, and finding their mouths open, do slide down into their stomachs: Wherefore, when the Lizard seeth a Serpent coming toward a man so sleeping, she waketh him, by gently scratching his hands and face, whereby he escapeth death and deadly poyson.

Palladius.
Pliny.

The use of these green Lizards, is by their skin and gall to keep apples from rotting, and also to drive away Caterpillars, by hanging up the skin on the tops of trees, and by touching the apples with the said gall: also when the head, feet or intrails are taken away, the flesh of the green Lizard is given in meat to one that hath the Sciatica, and thus much for the natural uses of the green Lizard.

Marcellus.

The remedies arising out of this Lizard, are briefly these: First it is used to be given to Hawks, and to be eaten in small pieces, provided so as it be not touched with their talons, for it will hurt their feet, and draw their claws together; also they seethe it in water, then beat it in a mortar. Lastly, when they have poured warm water upon it, they let the Hawk wash her feet in it, and so it causeth her to cast her old feathers and coat, and bringeth a new in the room thereof. This Lizard eaten with sauces to take away the loathing thereof, is good for the Falling-evil: and being sod in three pintes of Wine, until it be but one cup full, and thereof taken every day a spoonful, is good for them that have a disease in the lungs. It is also profitable for them that have pain in the loins. And there are many ways to prepare it for the eyes, which I will not stand to relate in this place, because they are superstitious, and therefore likely to do more harm then good to the English Reader.

There is an Oyl made of Lizards, which is very precious, and therefore I will describe it as I finde it in *Brasavolus*. Take seven green Lizards, and strangle them in two pound of common Oyl, therein let them soke three days, and then take them out, and afterwards use this Oyl to anoint your face every day, but one little drop at once, and it shall wonderfully amend the same. The reason hereof seemeth to be taken from the operation of the dung or excrements, because that hath vertue to make the face white, and to take away the spots.

If the upper part in the pastern of a Horse be broken, put thereinto this Oyl with a little Vinegar, then rub the hoof about therewith, so shall it increase and grow again, and all the pain thereof shall passe away. The making of the medicine is this: Take a new earthen pot, put thereinto three pintes of Oyl, wherein you must drown your Lizards, and so seethe them till they are burned away, then take out the bones, and put in soft Lime half a pound, liquid Pitch a pinte, of Swines grease two pound; then let them be all sod together again & afterwards preserved, and used upon the hoof as need shall require: for it shall fasten and harden the Horses hoof, and there is nothing better for this purpose then this Oyl. The ashes of a green Lizard do reduce skars in the body to their own colour.

The bones of a green Lizard are good against the Falling-evil, if they be prepared in this manner following: Put your green Lizard alive into a vessel full of Salt, and there shut it in safe, so in few days it will consume all the flesh and intrails from the bones, and so the bones may be taken and used in this case like the hoof of an Elk, which are very precious for this sickness, and no lesse precious are these bones. The blood doth cure the beating, bruizings, and thick skins in the feet of men and beasts, being applyed in flocks of Wooll.

The

The eye is superstitiously given to be bound to ones arm on a quartane Ague, and the eyes pressed out alive, and so included in golden buttons or bullets, and carryed about, do also help the pain of the eyes, and in default hereof the blood taken out of the eyes in a piece of Purple wooll, hath the same operation. The heart of a Lizard is also very good against the exulcerations of the Kings-evil, if it be but carryed about in the bosome in some small silver vessel. The gall taketh away the hairs upon the eye-lids that are unseemly, if it be dryed in the same to the thicknesse of Honey, especially in the Dog-days, and mixed with White-wine, then being anointed upon the place, it never suffereth the hairs to grow again. And thus much for the History of the green Lizard.

Of the MILLET or CENCHRINE.



THIS Serpent called by the Grecians *Cenchros*, *Cenchrines*, *Cenchridion*, and *Cenchrites*; is by the Latines called *Cenchria*, *Cenchrus*, and *Milliaria*: because it cometh abroad at the time that Millet-seed floureth, and is ready to ripe, or else because it hath certain little spots upon it like Millet-seed; and is also of the same colour. It is likewise barbarously called *Famusus*, *Aracis*, and *Falivisus*. The Germans of all others have a name for it, for they call it *Punter-schlang*, and *Berg-schlang*. Other Nations not knowing it cannot have any name for it; and therefore I cannot feign any thereof, except I should lie grossly in the beginning of the History. This Serpent is only bred in *Lemnus* and *Samothracia*, and it is there called a *Lyon*, either because it is of very great quantity and bignesse, or else because the scales thereof are spotted and speckled like the *Lybian Lyons*: or because when it fight-eth the tail is turned upward like a Lyons tail, and as a Lyon doth. But it is agreed at all hands, that it is called *Milliaria*, a *Miller*, because in the spots of his skin and colour it resemblenth a *Millet-seed*, which caused the Poet to write on this manner;

Puribus ille notis variatam tingitur alvum,

Quam parvis tinctus maculis Thebanus Ophites.

In English thus;

With many notes and spots, his belly is bedyed

Like Thebane her, Ophites slightly tryed.

But not only his belly, for his back and whole skin is of the same fashion and colour. The length of this Serpent is about two cubits, and the thick body is attenuated toward the end, being sharp at the tail. The colour is dusky and dark like the Millet, and it is then most ireful and full of wrath or courage, when this herb or seed is at the higohst. The pace of this Serpent is not winding or travelling, but str aight, and directed without bending to and fro: and therefore saith *Lucan*; *Et semper recto lapsurus limite Cenchris*: that is, And the Millet alway standing in a straight and right line, and for this cause when a man flyeth away from it, he must not run directly forward, but winde to and fro, crooking like an Indenture, for by reason thereof this Serpents large body cannot so easily and with the like speed turn to follow and persue, as it can directly forward.

It is a very dangerous Serpent to meet withal, and therefore not only the valiantest man, but also the strongest beast is, and ought justly to be afraid thereof, for his treacherous deceits and strength of body; for when it hath gotten the prey or booty, he beclapseth it with his tail, and giveth it fearful blows, in the mean time fasteneth his jaws or chaps to the man or beast, and sucketh out all the blood till it be fully satisfied; and like a Lyon he beateth also his own sides, setting up the spires of his body when he assalteth any adversary, or taketh any resisting booty. I take this to be the same called in *Sicilia*, *Serpa serena*, which is sometimes as long as a man, and as great as the arm about the

the wrist. In the heat of Summer they get themselves to the Mountain, and there seize upon cattel of all sorts, as often as anger or wrath enforceth them.

The nature of it is very hot, and therefore venomous in the second degree: wherefore when it hath bitten any, there followeth putrefaction and rottenesse, as flesh where water lyeth betwixt the skin, like as in the Dropsie: for besides, the common affections it hath with the Viper, and the biting thereof, alike in all things, more deadly and unresistible evils followeth, as drouzy, sleepinesse, and Lethargy, and pain in the belly, especially the Colick, pain in the liver and stomach, killing within two days, if remedy be not provided.

The cure is like the cure of the Vipers biting, Take the seed of Lettice, and Flax-seed, Savory beaten or stamped, and wilde Rue, wilde Betony, and Daffadil two drams in three cups of Wine, and drink the same, immediately after the drinking hereof, drink also two drams of the root of Centaury, or Hartwort, Nosewort, or Gentian, or Sefamine. And thus much for a description of this venomous Serpent, one of the greatest plagues to man and beast in all those Countries or places, wherein it is ingendered, and it is not the least part of English happinesse to be freed by God and Nature from such noysome, virulent and dangerous neighbours.

Of the NEVTE or WATER-LIZARD.



THIS is a little black Lizard, called *Wassermoll*, & *Wasseradde*, that is a Lizard of the Water. In French, *Taffot*; and in Italian *Marasandola*, which word is derived from *Marasso*, a Viper, because the poyson hereof is like the poyson of Vipers, and in the Greek it may be termed *Enudros Samros*. They live in standing waters or pools, as in ditches of Towns and Hedges. The colour as we have said is black, and the length about two fingers, or scarce so long. Under the belly

it is white, or at least hath some white small spots on the sides and belly: yet sometimes there are of them that are of a dusty earthy colour, and towards the tail yellowish. The skin is strong and hard, so as a knife can scarce cut the same, and being cut, there issueth out a kinde of white matterly liquor, like as is in Salamanders.

Being taken, it shutteth the mouth so hard as it cannot be easily opened, neither doth it endeavour to bite, although it be plucked and provoked. The tongue is very short and broad, and the teeth so short and small, as they are scarcely visible within the lips. Upon the fore feet it hath four fingers or claws, but upon the hinder-feet it hath five. The tail standeth out betwixt the hinder-legs in the middle, like the figure of a wheel-whirl, or rather so contracted, as if many of them were conjoynd together, and the void or empty places in the conjunctions were filled. The tail being cut off, liveth longer then the body, as may be seen in every days experience, that is, by motion giveth longer signes and token of life.

This Serpent is bred in fat waters and soils, and sometimes in the ruines of old walls, especially they delight in white muddy waters, hiding themselves under stones in the same water if there be any, and if not, then under the banks side of the earth, for they seldome come to the land. They swim underneath the water, and are rarely seen at the top. Their egges are not past so big as pease, and they are found hanging together in clusters. One of these being put alive into a glasse of water, did continually hold his head above the water like as Frogs do, so that thereby it may be conjectured it doth often need respiration, and keepeth not under water except in fear, and seeking after meat.

There is nothing in nature that so much offendeth it as Salt, for so soon as it is laid upon Salt, it endeavoureth with all might and main to run away, for it biteth and stingeth the little beasts above measure, so that it dyeth sooner by lying in Salt where it cannot avoid, then it would by suffering many stripes, for being beaten it liveth long, and dyeth very hardly. It doth not like to be without water, for if you try one of them, and keep it out of water but one day, it will be found to be much the worse.

Being moved to anger, it standeth upon the hinder-legs, and looketh directly in the face of him that hath stirred it, & so continueth til all the body be white, through a kind of white humor or poyson, that it swelleth outward, to harm (if it were possible) the person that did provoke it. And by this is their venomous nature observed to be like the Salamander, although their continual abode in the water, maketh their poyson the more weak.

Some say that if in France a Hog do eat one of these, he dyeth thereof, and yet doth more safely eat the Salamander. But in England it is otherwise, for I have seen a Hog without all harm carry in his mouth a Newt, and afterward eat it. There be some Apothecaries which do use this Newt in stead

stead of Skinks or Crocodiles of the earth, but they are deceived in the vertues and operation, and do also deceive other, for there is not in it any such wholesome properties, and therefore not to be applied without singular danger. And thus much may suffice to be said for this little Serpent, or Water-creeping creature.

Of the PELIAS.

Aetius making mention of the *Elaps* and *Pelias*, two kindes of Serpents, doth joyntly speak of them in this sort, saying that the signes of these Serpents were so common and vulgarly known, that there was no descriptions of them among the ancient Writers. But the *Pelias* biting causeth putrefaction about the wound or bitten place, but yet not very dangerous, and it bringeth obfuscation or dimnesse to the eyes, by reason that as the poyson is universally distributed over all the body, so it hath most power over the tenderest part, namely the eyes. It is cured by a Pissane with Oyl in drink, and a decoction of such Dockes as grow in ditches, and other simple medicines, such as are applyed to the curing of the Yellow-jaundise. The eyes must be washed with the urine of a childe or young man which never knew any woman carnally, and this may be applyed either simply and alone, or else by Brine and Pickle, so also must the head. After that the body is purged, anoint it with Balsamum and Honey, and take an Eye-salve to sharpen again and recover the sight, and for this cause it is very good to weep, for by evacuation of tears, the venom also will be expelled. But if the eyes grow to pain, then let their Eye-salve be made more temperate and gentle, to keep the head and brain from stupefaction. And thus much for the *Pelias* out of *Aetius*.

Of the PORPHYRE.

There is among the *Indians* a Serpent about the bignesse of a span or more, which in outward aspect is like to the most beautiful and well coloured Purple, the head hereof is exceeding white, and it wanteth teeth. This Serpent is sought for in the highest Mountains, for out of him they take the *Sardius* stone. And although he cannot bite because he wanteth teeth, yet in his rage when he is persecuted, he casteth forth a certain poyson by vomit, which causeth putrefaction where ever it lighteth. But if it be taken alive and be hanged up by the tail, it rendereth a double, one whiles it is alive, the other when it is dead, both of them black in colour, but the first resembleth black Amber. And if a man take but so much of the first black venom as is the quantity of a Sesamine seed, it killeth him presently, making his brains to fall out at his nostrils, but the other worketh neither so speedily, nor after the same manner; for it casteth one into a Consumption, and killeth within the compasse of a year. But I finde *Ælianus*, *Volateran*, and *Textor* to differ from this relation of *Ctesias*, for they say, that the first poyson is like to the drops of Almond trees, which are congealed into a gum, and the other which cometh from it when he is dead, is like to thin mattery water. Unto this *Porphyre* I may add the *Palmer* Serpent, which *Strabo* writeth doth kill with an unrecoverable poyson, and it is also of a Scarlet colour, to the loyns or hinder-parts.

Of the PRESTER.

Although there be many Writers which confound together the *Prestor* & the *Dipsas*, and make of them but one kinde, or Serpent of divers names, yet seeing on the contrary there be as many or more which do distinguish or divide them, and make them two in nature different, one from another, the *Dipsas* killing by thirst, and the *Prestor* by heat, as their very names do signifie, therefore I will also trace the steps of this latter opinion, as of that which is more probable and consonant to truth.

The *Grecians* call it *Prestor* of *Prethein*, which signifieth to burn or inflame, and *Tremellius* and *Junius* think, that the Serpents called fiery Serpents, which did sting the *Israelites* in the Wilderness, were *Prestors*. We finde in *Suidas*, *Prestor* for the fire of Heaven, or for a cloud of fire carryed about with a vehement strong winde, and sometimes lightnings. And it seemeth that this is indeed a fiery kinde of Serpent, for he himself always goeth about with open mouth, panting and breathing as the Poet writeth;

Oraque distendens avidus fumantia Prestor,

Inficit, ut lesus tumida membra gerat.

Which may be Englished thus;

The greedy Prestors wide-open foming mouth

Infests, and swelleth, making the members by heat uncouth.

When this Serpent hath struck or wounded, there followeth an immeasurable swelling, distraction, conversion of the blood to matter, and corrupt inflammation taking away freedom or easinesse

of aspiration, likewise dimming the sight, or making the hair to fall off from the head; at last suffocation as it were by fire, which is thus described by *Manuan* upon the person of one *Narsidius*, saying as followeth;

*Ecce subit facies leto diversa fluenti.
Narsidium Marfi cultorem torridus agri
Percussit prester: illi rubor igneus ora
Succendit, tenditq; cutem pereunte figura,
Miscens cuncta tumor toto jam corpore major.
Humanumq; egressa modum super omnia membra
Efflatur Sanies, late tollente veneno.
Ipse late penitus congesto corpore merfus.*

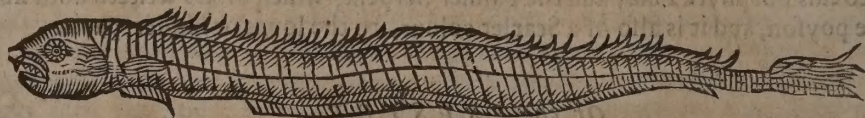
*Nec lorica tenet distenti corporis auctum.
Spumeus accenso non sic exundat atheno
Undarum cumulus: nec tanto carbasa Coro
Curvavere sinus: tumidos jam non capit artus
Informis globus & confuso pondere truncus.
Intactum volucrum rostris, epulasq; daturum
Haud impune feris, non ausi tradere busto,
Nondum stante modo crescens fugere cadaver.*

Which may be thus Englished;

Lo suddenly a divers fate the joyful current stayed,
Narsidius, which Marsinus mirror did adore,
By burning sting of scorching Prester dead was layed,
For fiery colour his face enflam'd, not as before.
The first appearing visage faild, all was out-stretcht,
Swelling cover'd all, and bodies grossefesse doubled
Surpassing humane bounds and members all ore reacht,
Aspiring venom spreads matter blown in carkasse troubled.
The man lyeth drownd within swoln bodies banks,
No girdle can his monstrous growth contain.
Not so are waters swoln with rage of sandy flanks,
Nor sails bend down to blustering Corus wain.
Now can it not the swelling sinews keep in hold,
Deformed globe it is, and trunk ore-come with waight,
Untoucht of flying Fowls, no beaks of young or old
Do him dare eat, or beasts full wilde upon the body bait,
But that they die. No man to bury in earth or fire
Durst once come nigh, nor stand to look upon that haplesse case,
For never ceased the heat of corps though dead to swell,
Therefore afraid they ran away with speedy pace.

The cure of the poyson of this Serpent, is by the Physitians found out to be wilde Purflain, also the flowers and stalk of the bush, the Beavers stone called *Castoreum*, drunk with *Opoponax* and Rew in Wine, and the little Sprat-fish in diet. And thus much of this fire-burning venomous Serpent.

Of the RED SERPENT.



THis kinde of Serpent being a Serpent of the Sea, was first of all found out by *Pelicerius* Bishop of *Montpelier*, as *Rondoleius* writeth, and although some have taken the same for the *Myrus* or *Berus*, of which we have spoken already, yet is it manifest that they are deceived, for it hath gills covered with a bony covering, and also fins to swim withal, much greater then those of the *Myrus*, which we have shewed already to be the male Lamprey. This Serpent therefore for the outward proportion thereof, is like to the Serpents of the land, but of a red or purplish colour, being full of crooked or oblique lines, descending from the back to the belly, and dividing or breaking that long line of the back, which beginneth at the head, and so stretcheth forth to the tail.

The opening of his mouth is not very great, his teeth are very sharp and like a saw, his gills like scaly fishes, and upon the ridge of his back, all along to the tail, and underneath upon the rine or brim of his belly are certain hairs growing, or at the least thin small things like hairs, the tail being shut up in one undivided fine. Of this kind no doubt are those which *Bellonius* saith he saw by the lake *Abydus*, which live in the waters, and come not to the land but for sleep, for he affirmeth that they are like land Serpents, but in their colour they are red spotted, with some small and dusky spots. *Gillius* also saith, that among the multitude of Sea Serpents, some are like Congers, and I cannot tell whether that of *Virgil* be of this kinde or not, spoken of by *Laocoon* the Priest of *Neptune*.

*Solennes taurum ingentem macabat ad aras.
Ecce autem gemini à Tenedo tranquilla per alta
(Horresco referens) immensis orbibus angues
Incumbunt pelago: pariterq; ad littora tendunt.*

*Pectora quorum inter fluctus arrecta, jubeque
Sanguinea exuperant undas: pars cetera pontum
Pone legit, sinuatque immensa volumine terga.
Fit sonitus fumante salo, &c.*

Which

Which may be Englished thus;

Whilest he a Bull at Altars solemn sacrifice,
Behold (I fear to tell) two monstrous Snakes appeared,
Out of Tenedus shore both calm and deep did rise
One part in Sea, the other on Land was reared:
Their breasts and red blood manes on waters mounted,
But back and tail on Land from foaming Sea thus sounded.

Of the SALAMANDER.



I Will not contrary their opinion which reckon the Salamander among the kindes of Lizards, but leave the assertion as somewhat tolerable: yet they are not to be followed, or to be believed, which would make it a kinde of Worm, for there is not in that opinion either reason or resemblance. What this Beast is called among the Hebrews I cannot learn, and therefore I judge that the Jews (like many other Nations) did not acknowledge that there was any such kinde of creature, for ignorance bringeth infidelity in strange things and propositions.

The Greeks call it *Salamandra*, which word or term is retained almost in all languages, especially in the Latine, and therefore Isidore had more boldnesse and wit, then reason, to derive the Latine *Salamandra*, quasi *Valincendram*, resisting burning, for being a Greek word, it needeth not a Latine notation. The Arabians call it *Saghras*, and *Samabras*, which may well be thought to be derived or rather corrupted, from the former word *Salamandra*, or else from the Hebrew word *Semamit*, which signifieth a Stellion. Among the Italians and Rhetians it retaineth the Latine word; and sometimes in Rhetia it is called *Rosada*. In the Dukedom of Savoy, *Pluvina*. In France, *Sourd*, *Blande*, *Albrenne*, and *Arrassade*, according to the divers Provinces in that Kingdom. In Spain it is called *Salamantegua*. In Germany it is called by divers names, as *Maall*, and *Punter maall*, *Olm*, *Moll*, and *Moleb*, because of a kinde of liquor in it like milk, as the Greek word *Molge*, from *amelgein* to suck milk. Some in the Countrey of Helvetia do call it *Quatteresh*. And in *Albertus* it is likewise called *Rimatrix*. And thus much may suffice for the name thereof.

The description of their several parts followeth, which as *Avicen* and other Authors write, is very like a small and vulgar Lizard, except in their quantity, which is greater; their legs taller, and their tail longer. They are also thicker and fuller then a Lizard, having a pale white belly, and one part of their skin exceeding black, the other yellow like Verdigrease, both of them very splendid and glistering, with a black line going all along their back, having upon it many little spots like eyes: And from hence it cometh to be called a Stellion, or *Animal stellatum*, a creature full of stars, and the skin is rough and bald, especially upon the back where those spots are, out of which as writeth the Scholiast, issueth a certain liquor or humor, which quencherh the heat of the fire when it is in the same.

This Salamander is also four-footed like a Lizard, and all the body over it is set with spots of black and yellow, yet is the sight of it abominable and fearful to man. The head of it is great, and sometimes they have yellowish bellies and tails, and sometimes earthy. It is some question among the learned, whether there be any discretion of sex, as whether there be in this kinde a male and a female. *Pliny* affirmeth that they never engender, and that there is not among them either male or female, no more then there are among Eeles. But this thing is justly crossed, both by *Bellonius* and *Agricola*, for they affirm upon their own knowledge, that the Salamander engendereth her young ones in her belly like unto the Viper, but first conceiveth eggs, and she bringeth forth forty and fifty at a time, which are fully perfected in her womb, and are able to run or go so soon as ever they be littered: and therefore there must be among them both male and female.

The Countries wherein are found Salamanders, are the Region about *Trent*, and in the *Alpes*, and sometime also in *Germany*. They most commonly frequent the coldest and moistest places, as in the shadow of Woods in hedges neer Fountains and Rivers, and sometimes they are found among Corn and Thorns, and among Rocks. They are seldom seen except it be either in the Spring-time, or against rain, and for this cause it is called *Animal vernale*, and *Pluviosum*, a Spring or rainy creature. And yet there were many of them found together in a hole neer unto the City *Sneberg* in *Germany*, in the month of *February*, for they love to live in flocks and troupes together;

together, and at another time in *November*, a living Salamander was found in a Fountain. Howbeit, if at any time it be seen foraging out of his den or lodging place, it is held for an assured presage of rain. But if the Spring-time fortune to be cold or frosty, then they keep home, and go not visibly abroad.

Some do affirm that it is as cold as Ice, and that it therefore quencheth heat or fire like a piece of Ice, which if it be true, then is the old Philosophical Maxime utterly false, namely, that all living creatures are hot and moist, being compared to creatures without life and sense, for there is not any dead or senselesse body that so quencheth fire as Ice doth. But the truth is, that the Salamander is cold, and colder then any Serpent, yet not without his natural heat, which being compared to Ar-mans, may truly be said to be hot, and therefore the venom of the Salamander is reckoned among Septicks, or corroding things.

Willichius.

It naturally loveth milk, and therefore sometimes in the Woods or neer hedges, it sucketh a Cow that is laid, but afterwards that Cows udder or stock dryeth up, and never more yeeldeth any milk. It also greatly loveth the Honey-combe, and some Authors have affirmed, that they use to gape after air or fresh breath, like the *Chamaeleon*, yet they which have kept Salamanders in glasses, never perceived by them any such thing. They are slow of pace, and void ground very sluggishly, and therefore it is justly tearmed a heavy and slothful Beast.

But the greatest matter in the Salamander to be enquired after, is whether it can live and be nourished by and in the fire, or whether it can passe through the fire without any harm, or quench and put out the same. Which opinions in the very relation and first hearing, do crosse one another, for how can that either be nourished or live in the fire, which quencheth the same being put into it? *Aristotle* that never saw a Salamander himself, but wrote thereof by hear-say, hath given some colour to this opinion, because he writeth, *Nonnulla corpora esse animalium quae igne non absumantur Salamandra documento est: quae (ut aiunt) ignem inambulans eum extinguit.* That is to say, the Salamander is an evidence, that the bodies of some creatures are not wasted or consumed in the fire, for (as some say) it walketh in the fire and extinguisheth the same.

Now whether this be seemed so great a Philosopher, to write upon hear-say, who took upon him to gather all natural learning into his own Graunge or store-house, and out of the same to furnish both the present and all future ages, I leave it to the consideration of every indifferent Reader that shall peruse this story. I for mine own part, rather judge it to be lightnesse in him, to insert a matter of this consequence in the discourse of this Beast, without either Authors, or experience gathered by himself. This one thing I marvel at, why the *Egyptians*, when they will expresse or signifie a Man burnt, do in their Hieroglyphicks paint a Salamander, except either fire can burn a Salamander, or else contrary to all their custom, they demonstrate one contrary by another.

Orus.

Nicander plainly affirmeth, that the Salamander doth without all harm passe through the fire, and the Scholiast addeth, that there are certain passages in the skin, out of which issueth a kinde of liquor that quencheth the fire: And he telleth a story of one *Andreas*, who did dip a piece of cloth in the blood of a Salamander, and tryed afterward whether it would burn or not, but did not finde that it would burn, wherefore he put it upon his hand, and thrust that into the fire, and then also he felt no manner of pain. And therefore the said *Nicander* calleth this creature *Ciporrhion*, because of a certain fat humor which issueth out of it, quenching the fire, but I rather think that this fat humor maketh the skin to glisten, for if it were properly fat, it would rather kindle and increase the fire then quench or extinguish the same.

Suidas followeth the common received opinion, that the Salamander quencheth the fire, (although it be not bred of the fire as *Krickets* are) like Ice; and when the fire is so quenched, it is in vain to blow or kindle the same again with any bellows, as they say have been tryed in the Forges of *Smiths*. And this also caused *Serenus* to write, *Seu Salamandra potens, nullisq; obnoxia flammis*: the potent Salamander is never hurt by flames. *Seneca* consenteth hereunto, and *Zoroastres*: and so great hath been the dotage about this opinion, that some have written that it ascendeth up to the fire neer the Moon, far above the reach of the Eagles or swiftest Fowls. Thus say they that write, and maintain the Salamanders abiding in the fire without harm. Now on the contrary, let us also hear their opinions, which deny this natural operation in the Salamander.

Pliny affirmeth, that in his own experience he found that a Salamander was consumed in the fire, and not the fire by it, for he saith he burned one to powder, and used the same powder in medicines.

Sextus also denyeth that it quencheth the fire, and unto this opinion agreeth *Dioscorides*. *Actius* writeth, that when it is first put into the fire, it divideth the flame, and passeth through speedily without harm, but if it tarry long therein it is burned and consumed, because the liquor or humidity thereof is wasted. And this is also granted by *Galen*, *Theophrastus*, and *Niphus*. And *Matthaeolus* affirmeth that he tryed the same, and found that if burning coals were laid upon it, then it burned like unto any other raw flesh, but being cast into the fire, it burneth not speedily.

Albertus writeth, that there were some which brought to him a certain thing which they called Wooll, and said that it would not burn, but he found it not *Lana*, Wooll, but *Lamygo*, that is, a vapoury adhaerency of a thing which flyeth from the strokes of hammers upon hot burning Iron, and being collected upon cloth, or cleaving to any part of the Forge, it there becometh in shew like yellowish pale Wooll.

The said Author affirmeth, that he took a Spider, and laid the same upon a hot burning Iron, where it continued unburned and unharmed without motion a great while, by reason of his thick skin and coldnesse, and unto another he suffered a little candle to be put, which instantly put it out. And for the same causes, that is to say, both the thicknesse of the skin, and cold constitution, cometh it to passe, that a Salamander can live so long in the fire without burning or consuming to ashes: for indeed the skin thereof is so hard, that it is cut or pierced with a knife with great difficulty; and so when the force of the fire hath broken the skin, then also issueth forth a cold humor, which for a season keepeth the heat out. For this Beast is said to be very full of humor, and the certainty thereof may most manifestly appear by his full and grosse body, and also by this, that it is seldom seen to issue or come forth of his den, except it be against rainy weather: and yet as the egges of other Serpents being cast into a hot burning furnace, do for a season rest in the same unburned, and yet are afterward consumed, so is it with the Salamander.

There be some that have found a web out of the hair growing upon Salamanders, which can by no means be set on fire, but this is very false, because the Salamander hath no hair upon it at all. And this kinde of web rather cometh of a kinde of flax that *Pliny* writeth of, or rather of the *Amiantus*-stone, called the *Asbest*, which is found in *Cyprus*, whereof they used to make coverings for the Theaters. This being cast into a fire, seems to be forthwith all in a flame, but being taken out again, it shineth the more gloriously. Cordus.
Dioscorid.

Some also do affirm, that such a piece of cloth or web, may be wrought out of the Salamanders skin, but *Brasavolus* denyeth both the vertue of the stone, and of the Salamanders hide or shell, for he saith he tryed the stone, and it would not be wrought into wooll or spun into thread, and when he cast the Salamanders shell or hide into the fire, it burned, and the matterly cold liquor thereof did almost flie into his face.

But some then will demand, where had Pope *Alexander* that coat, which could not be purged but by fire, which made it alway as white as Snow, or that map or net at *Rome*, wherein (it is said) the Napkin of our Saviour Christ is preserved, which men say is not washed but in the fire, which thing was sent to a Bishop of *Rome* for a present from the King of *Tartars*. Unto whom I answer out of *Paulus Venetus* as followeth. There is a Province in *Tartaria* called *Chinebnitalas*, wherein is a Mountain abounding with Mines of Steel and Copper; now in this Mountain there is a kinde of earth digged up, which yeeldeth a thred like the thred of Wooll. After the digging of it up they dry it in the Sun, and then beat it in a brazen mortar, afterward they spin it and weave it, in the same manner that they spin and weave other woollen cloth. After it is made, they have no means to purge it from spots or from filthinesse, but to cast it into the fire for the space of an hour, and then it is taken forth again as white as any snow.

There is also an Allum called *Alumen Sciole*, and it is the same which among the Ancients is called *Aster samius*, out of which also is made cloth that cannot burn, by reason of a certain Oyl that it containeth or yeeldeth to resist the fire. So out of the stone *Pyrinis* found in *Kisheba*, there cometh out a green liquor pressed with dead coals, and after that, no fire can burn that cloth. There are also certain Mantles in *Bohemia*, (as witnesseth *Agricola*) which could never be burned. And out of *Magnesia* a scaly stone in *Boldecrana*, they make tables, which cannot be clesed but by fire. It is also recorded, that the fore-named *Aster samius*, and pitch quenched in the juyce of Mallows or Mercurial, being anointed upon a mans hand, doth keep them from burning, or sense of extraordinary heat. So *Albertus* writeth of a stone which he calleth *Iscullos*, or *Iscustos*, which I take to be a kinde of the *Asbeste* or *Amiantus*. And this stone is found (as the same Author writeth) in the farthest parts of *Spain*, neer the Straights and *Hercules-pillars*. Cardan.

And this thing seemeth the lesse strange, because they which are anointed with Bird-lime, or else with Vinegar and the white of an egge, do not so quickly feel the strength of fire and heat, when they thrust their hands into the midst of it. It is also found, that the hearts of them that die of the heart-burning disease, or else are killed by poyson, cannot be burned with fire. And therefore when *Germanicus Caesar* was dead, it being suspected that he was poysoned by *Piso*, they cast his heart into the fire and it would not burn, which thing was alleadged against him by *Vitellius* the Oratour. And one *Aesculapius* in an Epistle which he wrote to *Octavian Augustus* saith, that there is a poyson so extream cold, that it keepeth the heart of a man poysoned therewith from burning, and if it lie long in the fire, it waxeth as hard as a stone, which so concreted is called *Profilis*, from the force of the fire, and from the matter whereof it consisteth it is called an humane stone. He also saith, that this is red in colour, mixed with some white, and is accounted precious, because both it maketh a man that weareth it to be a Conqueror, and also preserveth him from all manner of poyson. Pliny.

When the Salamander is provoked, it casteth forth a white matterly liquor or humor, and it is an audacious and bold creature, standing to his adversary, and not flying the sight of a man; and so much the lesse, if it perceive that a man prosecute and follow it, to harm and kill it. The biting of it is very exitial and deadly, and therefore the *French* men use this speech upon the biting of a Salamander;

*Si mordut'a une aressade,
Prens ton linceul & ta flassade.*

That is, if a Salamander bite you, then betake you to the coffin and winding sheet. The *Rhetians* do ordinarily affirm, that when a man is bitten by a Salamander, he hath need of as many Physicians as the Salamander hath spots. And *Arnoldus* saith, that it hath in it as many venoms and means of hurting, as it hath colours distinguished one from another. For when it once biteth and fasteneth teeth, it never letteth go, and being pulled off, it leaveth the teeth behinde, and then there never can be any remedy, and therefore it must be suffered to hang upon the wound until it fall off, either willingly or wearied, or else compelled by the medicines that the wounded patient receiveth. For by this means only is the patient kept alive: yet this is a way to be remembered, that the Salamander doth not alway bite, although provoked, for *Gesner* affirmeth, that he having two of them, could never by beating make them open their mouths, nor that in all his life did he ever hear of any man bitten by them. And of this thing he not only gathereth the difference of time, wherein their rage sheweth it self by biting, and when not, but also the difference of place and region, for that they bite in some Countries, and not in other. When they have bitten, there followeth a vehement pain and scab upon the place, for the cure whereof there must be taken a decoction of Frogs, and the broth must be drunk, and the flesh applyed to the sore; or else other common remedies against the poyson prescribed in the Treatise following.

Ælianus.

The poyson hereof is great, and not inferior to the poyson of any other Serpent, for sometimes by creeping upon Apple-trees, it infecteth and poysoneth all the fruit, so that those which eat the same, die and languish they know not whereof: and if the heel of a man do but touch any small part or portion of the spittle of a Salamander, it maketh all the hair of the body to fall off. The poyson it self is not cold, as some have thought, but hot, like to the poyson of Cantharides, and therefore to be cured by the same means, as by vomits, Glysters, Ephemerons, and such like. Only Swine do eat Salamanders without harm or damage, for there is in them a kinde of resistance in nature, and yet if Man or Dog do chance to eat of that Swine that hath eaten a Salamander, it hath been observed that they perished by the same. And this poyson spreadeth it self the further when it is dead, because it is strengthened by putrefaction, and Wine and Water wherein one of these lyeth dead, is empoysoned and made mortal thereby to others. But in our days Salamanders are not so venomous, if there be any credit in *Brasavolus*, howbeit I have heard and read, that if at this day a Salamander get into a heap of corn, she so infecteth it, that whatsoever eateth of that corn, dyeth as it were of poyson, and the Kine of *Helvetia*, which are sucked by Salamanders, do ever after remain barren, and without milk, and sometime also they die of that evil. And as *Arnoldus* writeth, it casteth forth a certain matterly white humor like milk out of the mouth, whereupon if a man or any other living creature do but tread, he is poysoned thereby, and at the least, all the hair of their body falleth off, and in like sort they infect herbs and plants of the earth by their poyson.

Sometimes it happeneth that beasts or men have swallowed Salamanders, and then the tongue is inflamed, and all the body falleth into grievous torment, by cold corruption and putrefaction, part after part, and also pains in the fundament and in the stomach, likewise Dropsies, and Impostumation in the belly, cramp of the guts, and retention of the urine. For the cure whereof they give sweet water, Calamints, Saint Johns Wort sod with the shells of Pine-apples, leafe of Cypressse, *Galbanus*, and Honey or Rozen, Ammoniack, and Stirax, New Cow-milk, the meal made of Flax-seed with sweet water, sweet Wine and Oyl to cause vomits: Scammony, and a decoction of Calamints and Figs, fat Bacon or Hogs-flesh, and also the Egges of a Tortoise, with the flesh thereof; besides infinite other remedies, ordained by the goodnesse of Almighty God, as Physicians know by their own studies and daily experiments. And therefore I hold it sufficient for me to have lightly touched them, referring those that are desirous to know more, unto the learned collection of *Catromus*.

Out of the Salamander it self arise also some medicines, for it hath a septicke power to eate and corrode to take away hairs, and the powder thereof cureth corns and hardnesse in the feet. The hear tyed to the wrist in a black skin, taketh away a quartain Ague; and also *Kirarides* writeth, that being bound unto a womans thigh, it stayeth her monethly flowers, and keepeth her barren: But this is worthily reprov'd for untruth, and therefore I will not commend it to the Reader. And thus much for the Salamander.

Of the SCORPION.

Scorpius in *Greek* is attributed both to the Scorpion of the Land and of the Sea, although sometimes for difference sake, the Scorpion of the earth be called *Scorpius chersaios*. The derivation is manifold according to some Writers, either of *Scorpizein ton ion*, that is, dispersing his poyson, or of *Sekanoos erpein*, because the motion of it is oblique, inconstant and uncertain, like as the flame of fire beateen with a small winde. The *Grecians* also use for a Scorpion *Blestas*, because it casteth poyson, and *Otiopos* from the number of his eight feet. And in *Æthiopia* there is a kinde of Scorpion which the *Greeks* call *Sybrina*. The *Latines* doe use indifferently *Scorpius*, *Sorpio nepa*, and *Cancer* also *Vinula* and *Geptaria*, as we finde in *Ponzettus*. The *Arabians* have many words, as *Harab*, *Acrob*, *Achrach*, and *Satoracon*, *Hacbarab*, *Algerarat*, *Algeterat*, and *Algenat* and *Alkatareti*, for little Scorpions which draw their tails after them.

them. Howbeit, among these names also *Algarat* signifieth that little kinde of Scorpions, and *Algarat* the Scorpion with bunches on his back. The *Hebrewes* according to the opinion of some, call a Scorpion *Acobabim*; the *Italians*, *Scurtigio*, and *Scorpione terrestre*; the *French*, *La Scorpion*; the *Spaniards*, *Alacram* and *Alacran*, which name they have also given to an Island in the *West-Indies* subject to their dominion. In *Castilia* it is called *Escorpion*, and in *Germany*, *Ehn Scorpion*.



wings and without wings: likewise in *Iberia*, *Caria*, and *Lybia*. And it is also said, that once there were many Scorpions brought into *India*, into that part of the Countrey where the *Rhizophagi* dwell. By the way betwixt *Susis* in *Persia* and *Media*, there were wont to abound Scorpions under every stone and turf, for which cause, when the King of *Persia* was wont to go into *Media*, he gave commandement unto his people to scowr the way, by using all means to kill them, giving gifts to them that killed the greatest number of Scorpions. There is an ancient Town in *Africk* called *Pescara*, wherein the abundance of Scorpions do so much harm, that they drive away the inhabitants all the Summer-time every yeer untill *November* following. And in like sort *Diodorus* declareth of many other places utterly forsaken to avoyd the multitude of Scorpions, as namely, one part of *Arabia*, and the Region of *India* about *Arrhatan*, or the river *Estumenus*, likewise neer the *Cynamolgi* in *Aethiopia*. There is also a City called *Alabanda*, standing betwixt two hills or mountains, like as a Chest turned inward, which *Apollonius* calleth *Cistam inversam Scorpionibus plenam*; a Chest turned inward full of Scorpions. In an Island of *Canaria* also are many Scorpions, and those most pestilent, which the *Turks* gather as often as they may to make Oyl of Scorpions. In *Italy*, especially in the Mount *Testaceus* in *Rome*, are also Scorpions, although not so hurtfull as in *Africa*, and other places, and it is thought that *Pylly*, whose nature cureth all kinde of venomous Serpents harms, did only for lucre sake bring Serpents and Scorpions into *Italy*, and there left them, whereby they encrease to that number and multitude, which now we see them have. And thus much may suffice to have spoken of the Countreys of Scorpions.

The Kindes of Scorpions I finde also to be many, but generally they may be referred unto twain, whereof one is called the Scorpion of the earth, and the other the Scorpion of the water or of the Sea, whose discourse or history is to be found among the fishes, for we in this place doe only write of the Scorpion of the earth, which is also called by *Avicen* a wilde Scorpion. Of this kinde there are many differences. First they differ in sex, for there are males and females, and the female is greater then the male, being also fat, having a grosser body, and a greater and sharper sting, but the male is more fierce then the female. Again, some of these have wings, and some are without wings, and some are in quantity greater then a Bean, as in *Helvetia*, neer *Rapirsnill* by *Zurick*. The Scorpions called *Vinulae*, are of a reddish colour, as it were Rose-water and Wine mixed together: and from thence it is probable that they took their name, and from their colour, the Authors have observed seven severall kinndes.

The first is white, and the biting of this is not deadly.

The second is reddish, like fire flament, and this when it hath wounded causeth thirst.

The third is of a pale colour, and therefore called by the *Grecians*, *Zophorides*, and these when they have wounded a man, cause him to live in continuall motion and agitation of his body, so as he cannot stand still, but remaineth distract and without wit, alway laughing, like a fool.

The fourth kinde is greenish, and therefore termed *Chloros*, which having wounded, causeth intolerable trembling, shaking, and quivering, and cold, so that if the patient be laid in the hot sun, yet he thinketh that he freezeth like hayl, or rather feeleth hayl to fall upon him.

The fifth kinde is blackish pale, and it is called *Empelios*, it hath a great belly and broad, whereof the poyson is great, and causeth after stinging and admirable heavinesse, and sorrowfull spirit. This kinde is called by *Gesner*, *Ventricosum*, because of the large belly, by the *Arabians*, *Algetarat*, and by *Ponzettus*, *Geptaria*. It eateth herbs, and the bodies of men, and yet remaineth insatiable, it hath a bunch on the back, and a tayl longer then other Scorpions.

The

Ælian.

Varin.
Strabo.

Ælian.
Leo Afric.

Strabo.

Cordus.

Gillius.

The sixth is like a Crab, and this is called by *Ælianus* a flamant Scorpion, it is of a great body, and hath tongs and takers very solid and strong, like the Gramuel or Crevish, and is therefore thought to take the beginning from that Fish.

The seventh is called *Mellichlorus*, because of the Honey-colour thereof, or rather Waxe-colour, and the wings it hath on the back, are like the wings of a Locust.

Also Scorpions do differ among themselves in regard of their outward parts, for some of them have wings, as those in *India*, which are spoken of by *Strabo*, *Nicander*, and others, and therefore many times when they settle themselves to flie, they are transported by the winde from one Countrey to another.

Ælianus.

Pliny.

Aristotle.

There is also another difference observed in their tayls, and in their stings, for some of them have six knots on their tayls, and some of them seven, and those which have seven, are more hardy and fierce, but this falleth out very seldome that the Scorpions have seven knots in their tail, and therefore much seldomer to have nine, as writeth *Apollodorus*. For if any have seven, then is there likewise in them a double sting, for there is also another difference, some of them having a single, and some a double sting, yea, sometimes a treble one, and the sting of the male is more thick and strong then the sting of the female.

And to conclude, there is also a difference in motion, for some of them hold up their tayls from the earth, and these are not much venomous, others again draw them along upon the earth, a little rowled together, and these are most deadly and poysonfull, some of them also flie from one Region to another, as we have shewed already.

Pliny.

Ælianus.

Again, there is nothing that giveth a man a more lively difference, then the consideration of their poyson, for the Scorpions of *Pharus*, and that part of the *Alpes* neer *Noricum*, do never harm any living Creature, and therefore are they suffered to abound, so as they live under every stone. In like sort in the *Isle Sanguola*, the Scorpions are like unto those that are in *Castilia* or *Spain*, for there the sting of the Scorpion doth not bring death, yet they cause a smarting pain, like the pain that cometh by the stinging of a Wasp, differing herein, that the Scorpions stinging is more lasting, and continueth longer then the stinging of a Wasp, for it tarrieth about a quarter of an hour, and by the biting thereof all are not pained alike, for some feel more, and some lesser pain. Contrary to these are the Scorpions of *Pescara* in *Afrik*, who ever with their tails wound mortally. And those in *Scythia*, which are great, and hurtfull unto men and beasts, killing Swine, who do not much care for any other Serpent, especially the black Swine, who do also die the sooner, if they drink immediately after the wound received. The like may be said of the Scorpions of *Egypt*. And thus much for the different kindes of Scorpions, wherein nature produceth a notable variety, as may appear by all that hath been said. Now it followeth that we likewise make some relation of their congruity one with another.

They are all little living Creatures, not much differing in proportion from the great Scarabee or Horse-flie, except in the fashion of their tails. Their back is broad and flat, distinguished by certain knots or seams, such as may be seen in Sea-Crabs, yet their head differeth, and hath no resemblance with the Crab, because it is longer, and hangeth farre out from the body, the Countenance whereof is fawning, and Virgin-like, and all the colour a bright brown. Notwithstanding the fair face, it beareth a sharp sting in the tail, which tail is full of knots, wherewithall it pricketh and hurteth that which it toucheth. And this *Pliny* affirmeth to be proper to this Insect, to have a sting in the tayl and to have arms: For by arms he meaneth the two crosse forks or tonges which come from it on both sides, in the tops whereof are little things like pinsons, to detain and hold fast, that which it apprehendeth, whiles it woundeth with the sting in the tayl.

It hath eight feet, four on the one side, and four on the other, from whence, as we have shewed already, it is called *Oëtopos*. For the feet and arms thereof is very much like unto the Sea-crab, and therefore may not unfitly be called either the mother, or the daughter thereof. They have also tongues, wherewithall they use often to lick and smooth over their own bodies. And seeing of all other things they love fresh and clean linnen, whereinto they insinuate, and wrap themselves when they can come unto it, then also first of all they cleanse their whole bodies all over with their tongues, and next to their flesh put on this clean linnen, as a man would put on a shirt.

As we have said already it hath a tayl, wherein the sting thereof is placed, but what this sting is, divers Authors are of divers opinions concerning the same, some affirming it to be hollow, others denying it, finding in it no passage at all to contain or convey poyson. *Ælianus* again saith, that there must needs be in it a passage or cavity, although it be so small as by no means it can be perceived with the eyes of any mortall man, and in that sting is the poyson lesse visible, which when it striketh, disperseth it self instantly into the wound. But what should this poyson be? whether a substance or spirituall humour; surely a substance, which although it be *mole minima*, yet *facultate maxima*, that is, of great power, although of small quantity. And therefore another Author (namely *Gerardus*) writeth hereof after this manner; *Scorpius e centro quodcavum esse creditur emittit humorem venenosum*: That is to say, The Scorpion out of a hollow center, sendeth forth a venomous humour. And of this venom we will afterwards discourse more at large. Thus much in this place may serve to make known the severall parts and members of this Serpent.

Now then it followeth that we inquire about the manner of their breed or generation, which I find to be double, as divers Authors have observed, one way is by putrefaction, and the other by laying of egges, and both these wayes are consonant to nature, for *Lacinius* writeth, that some creatures

are

are generated only by propagation of seed, such are men, Vipers, Whales, and the Palm-tree, some again only by putrefaction, as the louse, fly, grasse, and such like imperfect things, and some both wayes, as Mice, Scorpions, Emmets, Spiders, Purslain, which first of all were produced by putrefaction: and since their generation are conserved by the seed and egges of their own kinde. Now therefore we will first of all speak of the generation of Scorpions by putrefaction, and afterward by propagation.

Pliny saith, that when Sea-crabs dye, and their bodies are dried upon the earth, when the Sun entreth into *Cancer* and *Scorpius*, out of the putrefaction thereof ariseth a Scorpion; and so out of the putrefied body of the Crevish burned, arise Scorpions, which caused *Ovid* thus to write;

*Concava littoreo si demas brachia cancro,
Cetera supponas terræ, de parte sepulta
Scorpius exibat, caudaque minabatur unca.*

And again;

*Obrutus exemptis Cancer tellure lacertis,
Scorpius exiguo tempore factus erit.*

In English thus;

*If that the arms you take from Sea-crab-fish,
And put the rest in earth till all consumed be,
Out of the buried part a Scorpion will arise,
With hooked tayl doth threaten for to hurt thee.*

And therefore it is reported by *Ælianus*, that about *Estamenus* in *India*, there are abundance of Scorpions generated, only by corrupt rain-water standing in that place. Also out of the Basilisk beaten into pieces and so putrefied, are Scorpions engendred. And when as one had planted the herb *Basilica* on a wall, in the room or place thereof he found two Scorpions. And some say that if a man chaw in his mouth fasting this herb *Basil* before he wash, and afterward lay the same abroad uncovered where no sun cometh at it for the space of seven nights, taking it in all the day time, he shall at length finde it transmuted into a Scorpion, with a tayl of seven knots. *Ja. Lacinia.*

Hollerius, to take away all scruple of this thing, writeth that in *Italy* in his dayes, there was a man that had a Scorpion bred in his brain, by continuall smelling to this herb *Basil*, and *Gesner* by relation of an Apothecary in *France*, writeth likewise a story of a young maid, who by smelling to *Basil*, fell into an exceeding head-ache, whereof she dyed without cure, and after her death being opened, there were found little Scorpions in her brain. *Kiramides.*

Aristotle remembreth an herb which he calleth *Sissimbria*, out of which putrefied Scorpions are engendred, as he writeth. And we have shewed already in the history of the Crocodile, that out of the Crocodiles egges do many times come Scorpions, which at their first egression do kill their Dam that hatched them, which caused *Archelams* which wrote Epigrams of wonders unto *Ptolemæus*, to sing of Scorpions in this manner; *Philes. Ælianus.*

*In vos dissolvit morte, & redigit Crocodilum
Natura extinctum, Scorpii omnipotens.*

Which may be Englished thus;

*To you by Scorpions death the omnipotent
Ruines the Crocodil in natures life extinct.*

And thus much for the generation of Scorpions out of putrefaction. Now we will proceed to the second manner of their generation, which is by propagation of seed: for although *Ponzettus* make some question about their copulation, yet he himself inclineth to that opinion, as neerer unto truth, which attributeth carnall copulation unto them, and therefore he alledgeth the example of flies, which admit copulation although they engender not thereby. Wherefore we will take it for granted, that Scorpions lay egges after copulation, which hapneth both in the Spring and Autumne.

And these are for the most part in number eleven, upon which they sit and hatch their young ones, and when once they are perfected within, those egges (which are in sight like the little worms out of which Spiders are engendred) then do they break their egges, and drive the young out. For as *Isidorus* writeth, otherwise the old should be destroyed of the young, even as are the Crocodiles. Some again say, that the old Scorpions do devour their young ones. *Pliny.*

Being thus produced by generation, they live upon the earth, and those which are bred of the Sea-crab, do feed upon the foam of the Sea-water, and a continuall white mould or chalk neer the Sea. But the Scorpions of *Æthiopia* do eat all kinde of worms, flies, and small Serpents. Yea those Serpents whose very dung being troden upon by man, bringeth exulcerations. And a tryall that Scorpions eat flies, was made by *Wolphius* at *Montpelier*, for having a young one in a boxe, for one whole moneth together it lived upon flies, and grew by the devouring of them bigger, being put into the Glasse unto him.

They live among tiles and bricks very willingly, and for this cause they abound in *Rome* in the hill called *Testaceus*. They are also in *Bononia* found in the walls of old houses, betwixt the stones

stones and the mortar. They love also clean clothes, as we have said already, and yet they abhorre all places whereon the Sun shineth. And it seemeth that the Sun is utterly against their nature, for the same Scorpion which *Wolphius* had at *Montpellier*, lived in the Glasse untill one day he set it in the Sun, and then presently after it dyed.

To conclude, they love hollow places of the earth neer gutters, and sometimes they creep into mens beds, where unawares they do much harm: and for this cause the *Lybians*, who among other Nations are most of all troubled with Scorpions, do use to set their beds far from any wall, and very high also from the floor, to keep the Scorpions from ascending up into them. And yet fearing all devises should be too little to secure them against this evil, they also set the feet of their beds in vessels of water, that so the Scorpion may not attempt so much as to climbe up unto them for fear of drowning. And also for their further safeguard, they were socks and hose in their beds so thick as the Scorpion cannot easily sting through them.

Ælianus.

And if the bed be so placed that they cannot get any hold thereof beneath, then they climbe up to the sieling, or cover of the house, and if there they finde any hold for their pinching legs to apprehend and fasten upon, then in their hatred to man-kinde, they use this policy to come unto him. First one of them (as I have said) taketh hold upon that place in the house or sieling over the bed wherein they finde the man asleep, and so hangeth thereby, putting out and stretching his sting to hurt him, but finding it too short, and not being able to reach him, he suffereth another of his fellowes to come and hang as fast by him as he doth upon his hold, and so that second giveth the wound: and if that second be not able likewise, because of the distance, to come at the man, then they both admit a third to hang upon them, and so a fourth upon the third, and a fifth upon the fourth, untill they have made themselves like a chain, to descend from the top to the bed wherein the man sleepeth, and the last striketh him: after which stroke he first of all runneth away by the back of his fellow, and everyone again in order, till all of them have withdrawn themselves.

By this may be collected the crafty disposition of this Scorpion, and the great subtilty and malice that it is endued withall in nature, and seeing they can thus accord together in harming a man, it argueth their great mutuall love and concord one with another, wherefore I cannot but marvell at them who have written that the old ones destroy the young, all but one, which they set upon their own buttocks, that so the Dam may be secured from the sting and bitings of her son. For seeing they can thus hang upon one another, without harm, favouring their own kinde, I see no cause but that nature hath grafted much more love betwixt the old and the young ones, so as neither the old do first destroy the young, nor afterward, that young one preserved, in revenge of his fellowes quarrell, killeth his Parents.

It is reported by *Aristotle*, that there is a hill in *Caria*, wherein the Scorpions do never sting any strangers that lodge there, but only the naturall born people of that Countrey. And hereunto *Pliny* and *Ælianus* seem to subscribe, when they write that *Scorpiones extraneos leniter mordere*, that is, Scorpions bite strangers but gently. And hereby it may be collected, that they are also by nature very sagacious, and can discern betwixt nature and nature; yea the particular differences in one and the same nature. To conclude, Scorpions have no power to hurt where there is no blood.

Albertus.

The naturall amity and enmity they observe with other creatures commeth now to be handled, and I finde that it wanteth not adversaries, nor it again hath no defect of poyson or malice to make resistance and opposition, and to take vengeance on such as it meeteth withall. The principall of all other subjects of their hatred, are Virgins and Women, whom they do not only desire to harm, but also when they have harmed, are never perfectly recovered. And this is at all times of the day, but unto men they are most dangerous in the morning fasting, before they have vented their poyson, and this is to be observed, that their tayls are never unprovided of stings, and sufficient store of venome to hurt upon all occasions.

Ælianus.

The Lyon is by the Scorpion put to flight wheresoever he seeth it, for he feareth it as the enemy of his life, and therefore writeth *S. Ambrose*, *Exiguo Scorpionis aculeo exagitur Leo*, the Lion is much moved at the small sting of a Scorpion. Scorpions do also destroy other Serpents, and are likewise destroyed by them. There was one *Cellarius* a Physitian in *Padua*, who put together into one Viall, a Viper and a Scorpion, where they continually fought together, untill they had killed one another. The Swine of *Scythia*, which do safely eat all other kinde of Serpents and venomous beasts, without all harm, yet are destroyed by eating of Scorpions, and so great is the poyson of the *Sibarite* Scorpion, that the dung thereof being trode upon breedeth ulcers.

And as in this manner we see the virulence, and naturall evill of Scorpions against other living creatures, so now we are to consider the terrors of the Scorpion, for God in nature hath likewise ordained some bodies, whereby the Scorpion should be, and is driven away, scared and destroyed.

First of all therefore men, which are the chief, and head of all living Creatures, do by natural instinct, kill and destroy Scorpions, and therefore *Galen* writeth thus, Let us (saith he) kill Scorpions, Spiders, and Vipers, not because they are evill in themselves, but because it is ingrafted in us by nature, to love that which is good unto us, but to hate and avert from that which is evill unto us, *Non considerantes genitum ne ita sit an secus*, not considering whether it were so bred or not. As we have shewed their generation out of putrefaction to be by heat, so also is their destruction by heat, for they are not able to abide the heat of the Sun, and therefore, although they cannot live in cold Northern Countreys, but in the hotter, yet in the hotter they choose shadowes, holes of the earth, coverture of houses, and such like vile and obscure places, to succour and secure themselves in.

It is also reported, that if Scorpions do at any time behold a Stellion, they stand amazed and wonderfully astonished. The Viper also having killed a Scorpion, becometh more venomous, and the Ibis of Egypt destroyeth Scorpions. There are a little kinde of Emmets, called by the Arabians, *Gerarets*, which are eaters of Scorpions. The quick-sighted Hawks also, from whose piercing eye no Serpent can be hid, when he seeth a Scorpion, he neither feareth nor spareth it. It is also thought that Hares are never molested by Scorpions, because if a man or beast be anoynted with the rennet of a Hare, there is no Scorpion or Spider that will hurt him. Wilde Goats are also said to live without fear of Scorpions, even as the *African Psylli* of whom we have often spoken.

Galen.

Ponzeitus.

Now this vertue against Scorpions is not only in living things, but also in the Plants of the earth, and therefore *Sestius* writeth, that the seed of Nose-wort burned or scorched doth drive away Serpents, and resist Scorpions and so doth the root of the Mast-tree, and the seed of Violets, and the same vertue is ascribed to the herb *Lychnis*, which is Englished Calves-snout, and also to the seed of wilde Parsnip.

Arnoldus.

Aetius.

Palladius.

Rafis.

Strabo.

Plutarch.

The smell of Garlick and wilde Mints set on fire, or strewed on the ground, and Dittany have the same operation: and above all other, one of these Scorpions burned, driveth away all his fellows which are within the smell thereof, and therefore this is a most usuall thing in *Asia* and *Africk*, to perfume their houses with Scorpions burned, and in stead thereof they make as it were little pills of *Galbanum sandracha*, with butter, and the fat of Goats, and thereof altogether make their perfume: also Bettony, and wilde Pellitory with Brimstone. They use also to cover pans with certain things called by them *Alkitran* and *Asa*, and with these they compasse the place wherein the Scorpion lodgeth, and then it is found that they can never stir any more from that place. And some instead thereof, powr Oyl into their holes after them for the same effect. And the Husband-men of *Mauritania* doetye and fasten to their bed-side, sprigs of white thorn, and Hasell-nuts, wherewithall by a secret antipathy in nature, they drive away and keep themselves safe in their beds from the annoyance of Scorpions.

By touching of Hen-bane they lie dead and overcome, but if one touch them again with white Ellebore, they revive, and are released from their former stupefaction. It is also said that the leaves of water-mallows do also astonish Scorpions, and so also doth the Radish-root. The Sea-crab with Basil in her mouth destroyeth the Scorpion, and so doth Tunicle and Mushrom of trees. To conclude, the spittle of a man is death unto Scorpions; and therefore when a certain fellow took upon him to be a cunning Charmer, and by incantation to kill a Scorpion, he added to the words of his Charm a treble spitting in the mouth of the Serpent, and so it dyed: whereupon *Wolphius* which was present, and saw this Charmer, did afterward by himself alone at home, make triall of spittle without a Charm, and so found that it alone killeth Scorpions, especially the spittle of a man fasting, or very thirsty. Moreover, there be certain Lands wherein no Scorpions will live, as that about *Clupea* in *Africk*, and the dust of the Island *Gaulus* neer *Cercina*, being sprinkled upon a Scorpion, doth incontinently kill it. And so much also writeth *Hermolaus*, of the Region *Galatha*.

Gillius.

Aetius.

Solinus.

These and such like things are observed by our painfull and industrious Ancestors about the nature of Scorpions, as well that which is hurtfull unto them, and they are afraid of, as those to which they are enemies in nature, and wound mortally when they light upon them. It is remembered by *Textor* that *Orion* was slain by a Scorpion, whereupon the Poets have made many tales. They say, that when he was grown to be a man he was a great hunter, and a continuall companion of *Diana*, who glorying much in his own strength, boasted that he was able to overcome any Serpent or other wild beast, whereat the Gods being angry, for revenge, and taking down the pride of this young man, caused the earth to bring forth a Scorpion, who killed *Orion*. Whereat *Diana* was very sorry, and therefore in lamentation of her champion, and for the good deeds he had done unto her, translated him into heaven, close by the constellation of the Bull. *Lucan* on the other side saith, that *Diana* sent this Scorpion to kill him, envying his famous success in hunting, and that afterward the Goddess taking pity on him, translated him into heaven. Others write again, that he had his eyes put out by *Oenopion*, and that he came blind into the Island *Lemnos*, where he received a horse of *Vulcan*, upon which he rode to the Sun-rising, in which journey, he recovered again his eye-sight, and so returning, he first determined to take revenge upon *Oenopion* for his former cruelty. Wherefore he came into *Creet*, and seeking *Oenopion*, could not finde him, because he was hid in the earth by his Citizens, but at last coming to him, there came a Scorpion and killed him for his malice, rescuing *Oenopion*. These and such like fables are there about the death of *Orion*, but all of them joyntly agree in this, that *Orion* was slain by a Scorpion. And so saith *Anthologus* was one *Panopæus* a Hunter.

There is a common adage, *Cornix Scorpionum*, a Raven to a Scorpion, and it is used against them that perish by their own inventions: when they set upon others, they meet with their matches, as a Raven did when it preyed upon a Scorpion, thus described by *Alciatus*, under his title *Iusta ultio*, just revenge, saying as followeth.

Raptabat volucer captum pede corvix in auris

Scorpion, audaci premia parva gule.

Ast ille infuso sensum per membra veneno,

Which may be Englished thus;

The ravening Crow for prey a Scorpion took

Within her foot, and therewithall aloft did flie,

But he impos'd her by force and stinging stroke,

Raptorem in stygias compulit ultor aquas.

Orisures digna! alii qui fata parabat,

Iple periit, propriis succubuitque dolis.

So ravener in the Stygian Lake did die. (did kill,

O sportfull game! that he which other for bellies sake

By his own deceit should fall into deaths will.

There

Gyraldus.

There be some learned Writers, who have compared a Scorpion to an Epigram, or rather an Epigram to a Scorpion, because as the sting of the Scorpion lyeth in the tayl, so the force and vertue of an Epigram is in the conclusion, for *vel acriter et false mordeat, vel jucunde & dulciter deleat*, that is, either let it bite sharply at the end, or else delight pleasingly. There be many wayes of bringing Scorpions out of their holes, and so to destroy and take them, as we have already touched in part, unto which I may adde these that follow: A perfume made of Oxe-dung, also Storax, and Arsenick. And *Pliny* writeth, that ten Water-crabs beaten with Basil is an excellent perfume for this purpose, and so is the ashes of Scorpions. And in *Padua* they use this art, with small sticks or straw they touch and make a noyse upon the stones and mortar wherein they have their nests, then they thinking them to be some flies for their meat, instantly leap out, and so the man that deluded them is ready with a pair of tongs or other instrument to lay hold upon them and take them, by which means they take many, and of them so taken, make Oyl of Scorpions. And *Constantinus* writeth, that if a mans hand be well anoynted with juice of Radish, he may take them without danger in his bare hand.

Cardan.

In the next place we are to proceed to the venom and poyson of Scorpions, the instrument or sting whereof, lyeth not only in the tail, but also in the teeth, for as *Ponzettus* writeth, *Ledit scorpium morsu et ianu*, the Scorpion harmeth both with teeth and tail, that is, although the greatest harm do come by the sting in the tayl, yet is there also some that cometh by their biting. This poyson of Scorpions, (as *Pliny* out of *Apollodorus* writeth) is white, and in the heat of the day is very fervent and plentifull, so as at that time they are insatiably and unquenchably thirsty, for not only the wilde or wood Scorpion, but also all other are of a hot nature, and the symptoms of their bitings are such as follow the effects of hot poysons: and therefore saith *Rasis*, all their remedies are of a cold quality. Yet *Galen* thinketh otherwise, and that the poyson is cold, and the effects thereof are also cold. For which cause *Rondeletus* prescribeth Oyl of Scorpions to expell the stone, and also the cure of the poyson is by strong Garlick and the best Wine, which are hot things. And therefore I conclude, that although Scorpions be most hot, yet is their poyson of a cold nature.

In the next place, I think it is needfull to expresse the symptoms following the striking or stinging of these venomous Scorpions, and they are (as *Aetius* writeth) the very same which follow the biting or poyson of that kinde of great *Phalanx* Spider, called also *Teragnatum*, and that is, they are in such case as those persons be which are smitten with the Falling sicknesse.

Aetius.
Ælianus.

He which is stung by a Scorpion, thinketh that he is pressed with the fall of great and cold hayl, being so cold, as if he were continually in a cold sweat, and so in short space the poyson disperfeth it self within the skin, and runneth all over the body, never ceasing untill it come to possesse some predominant or principall vitall part, and then followeth death. For as the skin is small and thin, so the sting pierceth to the bottom thereof, and so into the flesh, where it woundeth and corrupteth either some vein, or arterie or sinew, and so the member harmed swelleth immediately into an exceeding great bulk and quantity and aking, with insufferable torment. But yet (as we have already said) there is a difference of the pain, according to the difference of the Scorpion that stingeth. If a man be stung in the lower part of his body, instantly followeth the extension of his virile member, and the swelling thereof: but if in the upper part, then is the person affected with cold, and the place smitten is as if it were burned, his countenance or face distorted, glewish spots about the eyes, and the tears viscous and slimy, hardnesse of the articles, falling down of the fundament, and a continuall desire to egestion, foaming at the mouth, coughing, convulsions of the brain, and drawing the face backward, the hair stands upright, palenesse goeth over all the body, and a continuall pricking like the pricking of needles.

Also, *Gordomus* writeth, that if the prick fall upon an artery, there followeth swooning, but if on a nerve, there speedily followeth putrefaction and rottennesse. And those Scorpions which have wings, make wounds with a compasse like a bow, whose succeeding symptoms are both heat and cold, and if they hurt about the canicular dayes, their wounds are very seldome recovered.

The *Indian* Scorpions cause death three moneths after their wounds. But most wonderfull is that which *Strabo* relateth of the *Albenian* Scorpions and Spiders, whereof he saith are two kindes, and one kinde killeth by laughing, the other by weeping. And if any Scorpion hurt a vein in the head, it causeth death by madnesse, as writeth *Paracelsus*. When an Oxe or other beast is stricken with a Scorpion, his knees are drawn together, and he halteth, refusing meat; out of his nose floweth a green humour, and when he is laid, he careth not for rising again.

These and such like are the symptoms that follow the bitings and stings of Scorpions, for the cure whereof I will remit the Reader to that excellent discourse written by *Wolphius*, wherein are largely and learnedly expressed, whatsoever Art could collect out of nature. And seeing we in our Countrey are free from Scorpions, and therefore shall have no need to fear their poyson, it shall not I trust offend my Reader, if I cut off the relation of Scorpions cures, as a thing which cannot benefit either the English Reader, or else much adorn this History, and so I will proceed to the medicines drawn out of Scorpions.

Haly.

The application or use of Scorpions in medicine, is either by powder or by Oyl, or by applying them bruised to their own wounds, wherefore every one of these are to be handled particularly; and first of all for the powder, it is made by uftion or burning in this manner. They take ten Scorpions and put them alive into a new earthen pot, whose mouth is to be dammed up with loam or such like stuffe, then must it be set upon a fire of Vine-tree-shreds, and therein must the pot stand

stand day and night untill all within it be consumed to powder, and you shall know by their white colour when they be enough; otherwise, if they be brown or burned, they must be continued longer, and the use of this powder is to expell the stone.

Again, they use to make this powder another way, they take twenty Scorpions, and put them in a little earthen pot with a narrow mouth, which mouth must be stopped, and then the pot put into a Furnace by the space of six hours, which Furnace must also be kept close within, and with a gentle fire: then after six hours take off the pot, and bruise the Scorpions into powder, and keep that powder for the use aforesaid. There are other wayes also to prepare this powder, but in all preparations the attendant and assistant must take heed of the fume or smoak that cometh from it, for that is very venomous and contagious.

But besides, there are many things to be observed herein, as first, that the Scorpions be alive, and that they be killed in Oyl, then, that they be put in whole, with every member, without mutilation, and that the Scorpions appointed for this confection, be of the strongest poyson, and the time of their collection to be when the Sun is in *Leo*, and not in *Scorpius*, as some without reason have imagined.

The Oyl so made, is distinguished into two kindes, one simple, and the other compound. The simple is made of a convenient number of Scorpions, (as it were twenty if they be great, and more if they be little) and they being put into a glasse vessel, Oyl of bitter-Almonds must be powred upon them, and so the vessel stopped close and set in the Sun by the space of thirty dayes, and then stirred and used. Yet the women of *Ferrara* use Oyl-olive in stead of Oyl of bitter Almonds, and also observe no quantity of Oyl, but fill the pot full, and likewise no order in the number of the Scorpions, putting one to day and another to morrow, and so more the next week or moneth, as they can finde them.

Brasavolus.

The compound-oil is thus made, they take round *Astrologe*, *Cypresse*, and *Gentian*, the roots of *Capars*, and upon these they pour Oyl of bitter Almonds, and soak the roots in the Oyl in the hot sun for the space of twenty dayes, then take they a complete number of Scorpions, from betwixt ten to fifteen, these they put again to the Oyl, and so stop up the mouth again, and set it the second time in the sun thirty dayes, and afterward strain it and use it. This compound-Oyl is not so much approved by *Brasavolus*, as the former simple, because the first hath more Scorpions, and the second is stuffed or seasoned with spices.

The green Scorpion which is bred of *Basil*, having seven knots in the tayl, being beaten and pounded with the herb Scorpion, and so made into pills, then dried and put into a glasse, are very profitable to him that hath the Falling-sicknesse, if he take of them three every morning fasting in temperate Wine, but these being given to a sound man putteth him clean out of his wits. If a man take a vulgar Scorpion and drown the same in a porringer of Oyl in the wane of the Moon, and therewithall afterward anoynt the back from the shoulders to the hips, and also the head and forehead, with the tips of the fingers and toes of one that is a demoniack or a lunatick person, it is reported, that he shall ease and cure him in short time. And the like is reported of the Scorpions sting joyned with the top of *Basil* wherein is seed, and with the heart of a Swallow, all included in a piece of Harts skin.

Kiranides.

The Oyl of Scorpions made of common Oyl-olive, is good for the pain in the ears infused by distillation; also it cureth a *Pleurisie* in this manner. They take meal out of a Windmill, and make thereof with water, paste, or little cakes, in quantity like a *French Crown*, these must be sod in a frying-pan in Oyl of Scorpions, and so applyed as hot as can be to the place where the pricking is, and so kept to the same very hot, and when it beginneth to be cold, let new be applyed still, nine times together, successively one time after another. Scorpions bruised in new sweet Wine, doe cure the Kings-evil. The ashes of a Scorpion infused by the yard into the bladder, breaketh and disperfeth both the stone of the bladder and the reyns. And the like operation hath a vulgar Scorpion eaten with vinegar and Rose-cakes applyed to the gowty members, it many times easeth the inflaming pains thereof.

Alexius.

Galenus.

The Oyl of Scorpions is very available in the time of Plague, both by Oyntment and also in position: wherewithall one did affirm to *Volphius* that he gained a great summe of money, which he prepared in this manner. He took a hundred Scorpions, and sod them in the oldest Oyl-olive he could get, untill such time as the Scorpions were consumed, then did he strain them through a linnen cloth, adding unto it an ounce of *Rubarb*, and so shutting it close in a glasse bottle, he set it forty dayes together in the sun, and afterward he gave of it to be used in time of infection, advising them that had it to apply it in oyntment to the pulse, heart, hinder part of the head, neck and nostrils. And if a man began to be sick, within twelve hours after the first sense of his pain, he was annoynted herewith about the tumour, and then was it launced. This oyntment is also commended against all manner of poyson, not onely of other Serpents and venomous beasts, but also of the Scorpion it self. And thus much for the history of the Scorpion.

of the SCYTALLE.



THis Serpent called by the Grecians *Scytale*, is likewise termed by the Latinists, *Scytalis*, and by some *Scicalis*, *Picalis*, *Sciscetalis*, and *Seyseculus*, and by *Albertus*, *Situla*, which we have already interpreted a *Dipsas*, but all of them are most manifestly corrupted from *Scytale*, the first Grecian word. And therefore I will not stand to confute them that call it also *Cecilia*, a blinde worm, because (after the manner of other Serpents) it eateth no Fennell, but this *Cecilia* or blinde Worm, we shall afterward demonstrate to be our English Slow-worm. This *Scytall* is very full of marks or spots upon the back, so variable and delectable, that it possesseth the beholders with admiration, and almost bringeth them asleep looking thereon: for it is also slow, and moveth softly, wherefore it cannot pursue where it would do harm; in stead therefore of celerity, these naturall spots doe hold them that it doth desire to harm, like as they were stupefied and astonished. And in this brightness of the scales, first of all it must lay aside the winter-skin, or else there appeareth not any splendour at all. And it is also said to be so hot and fervide, that it casteth skin in the Winter, according to this saying of *Lucau*;

*Et Scytale sparsis etiam nunc sola pruinis
Exuvias postura suas.*——

That is in English thus;

*None but the Scytall while Winter-frosts abide,
Out of his spotted skin and Scales doth glide.*

The outward form or visible proportion of this Serpent, is like that which we have already called a Double-head, and the Latines, *Amphisbena*, except that the tayl hereof is flatter and thicker. The length of this Serpent is like the longest Worms of the earth, and the thickness like the helve or handle of a spade. And the greatest difference betwixt this and the Double-head, is that this goeth but one way, and the Double-head goeth as well one way as another: and the colour hereof is like the colour of the other. The generall description of this Serpent is thus expressed by *Nicander*;

*Bifronti similem reperis Scytalam Amphisbena
Pinguior est tamen, & cauda, quæ nulla fere exit,
Crassior, ut quantum solita est comprehendere lignum,
Curva manus strictum quoties tenet ipsa ligonem.
Tam proluxa, vagans pluvio quam reptile cælo,
Quod secunda genus sua gignit viscera tellus.
Nec postquam juvenis venienti tempore veris,
Magna Deum quando profert serpentia mater,*

*Liquerit obscuram consueta cubila petram,
Et nitidos tepido sub sole exriverit artus,
Pendentis se fœniculi teneram exedit herbam,
Sæpè per opaca morans imi declivia montis
Se tenet, & multo graviter latet obruta somno,
Eque alta sua conquirat sibi pabula terra:
Nec licet id magno cupiat, studeatque labore
Arescente sitim potis est depellere fauce.*

Which may be Englished thus;

*The Scytall like the Double-head thou shalt in feature finde,
Yet is it fatter, and tayl that hath no end much thicker is,
As big as crooked hand is wonted for to winde
The haft and helve of digging spade the earth that rifts.
As long it is as that thin crawling worm which heavens rain
Begets on fruitfull earth, when bowels warmly moistened are,
And when the Mother-goddesse great sends forth her creeping train,
Which is Yeers-youth, fresh time of Spring, both calm and fair.
Then leaves it off his wonted bed in rock obscure,
And in what sun he stretches out his limbs and sinewes all,
Eating the new sprung-blades of Fennell-herb, so putting teeth in ure,
In holes of the declining hills so keeps both great and small,
Where time in deepest sleep of buried nature it doth passe,
And being hungry, the earth in top of hole it eats,
Quenching the thirst by force of dryest chappes as grasse,
Though without pain, desirelesse it seeks these drinks and meats.*

The biting of this Serpent is like the biting of the Double-head, and therefore the cure is in the same manner, wherefore I shall not need to repeat the signs thereof, or the cure in this place. And so I will conclude the story of this Serpent.

of the SEA-SERPENTS.

AMong the manifold kinds of Sea-serpents, as well known as unknown, (whereof some are like the Lamprey, some like the *Myrus*, and many other like the Serpents of the earth, except in their head, as *Aristotle* writeth, for that is more like the head of a Conger then a Serpent) it peculiarly hath one kinde, in colour and form not unlike an Eel, in length about three cubits, in the gills and finnes resembling a Conger, but it hath a longer snout or beak, which is also fortified inwardly with very many small sharp teeth, the eyes not so great, a smooth or pield skin, and hanging over at the back, having no scales, so as it may easily be sleied. The belly of it is betwixt red and white, and all the body over is set with spires, so as being alive it is not handled without danger. And this is by *Pliny* called the Dragon of the Sea, which cometh out of the Sea into the sands, and therein with an admirable celerity and dexterity maketh his lodging place. For the snout thereof is sharper then the Serpents of the earth, therefore therewith it diggeth and hideth it self in the hole or hollow place which it hath made. This is also called by *Pliny* *Ophidion*, but I think it better to follow *Aristotle*, who doth call it *Ophis thalassios*, a Sea-serpent, the colour whereof is blacker or dimmer then the Conger.

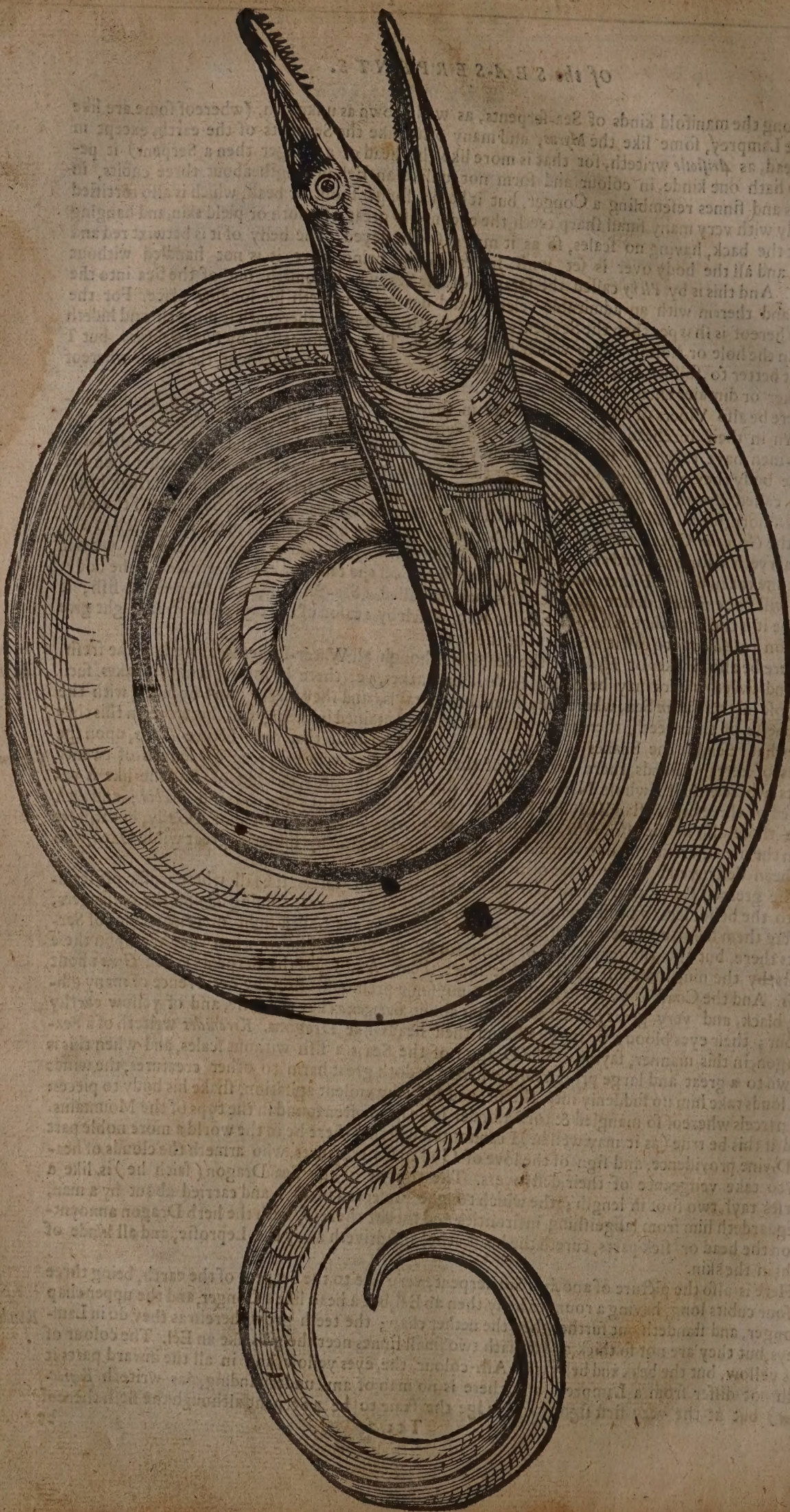
There be also Vipers of the Sea, which are in shew little fishes, about a cubit long, having a little horn in their forehead, the biting or sting whereof is very deadly, and therefore when the Fisher-men have taken any one of these, they instantly cut off the head and bury it in the sand, but the body they eat for good meat: yet these Serpents are thought to be none other then the Fishes called *Arauei*, or Spider-fishes, saving that they are said to have a sharp sting in their head, & this a horn, for all Water or Sea-serpents have harder and less heads then the Serpents of the land.

In the *Germane* Ocean there is found a Serpent about the bignesse of a mans leg, which in the tayl carryeth a sting as hard as any horn, this haunteth only the deepest part of the Sea, yet is it sometime taken by the Fisher-men, and then they cut off the tail, and eat the residue of the body. Yet I will not expressly define whether this may be called a Sea-Serpent, or a Serpentine-fish; it may be it is the same that is a Fork-fish, or Ray, which by reason of the tayl thereof, it might give occasion to *Albertus* to call it a Serpent of the Sea.

There be also Snakes or *Hyders* in the Sea, for although all Water-serpents, as well of the fresh, salt, and sweet waters may be called *Hyders*, or Snakes, yet there be some peculiar Snakes, such as those in the *Indian* Sea, where they have broad tayls, and they harm more by biting with the sharpnesse of their teeth, then by any venom that is contained in them; and therefore in this they somewhat resemble the Snakes of the earth. And *Pliny* writeth, that once before *Persis*, upon the coasts of certain Islands, there were seen of these Sea-hyders very many, of the length of twenty cubits, wherewithall a whole Navy or fleet of ships were mightily affrighted. And the like is reported of three other Islands, lying betwixt the promontory of *Carmania* and *Arabia*; and such were those also in the *African* Sea, who are said by *Aristotle* not to be afraid of a Gally, but will set upon the men therein, and over-turn it. And he himself saw many bones of great wilde Oxen, who had been destroyed by these kinde of Sea-snakes or *Hyders*.

The greatest River that falleth into the red Sea, is called *Sinthus*, the fall whereof afar off, seemeth to the beholders to be like winding Snakes, as though they were coming against the passengers, to stay them from entrance into that Land; and there is not only a sight or resemblance of Serpents there, but also the very truth of them, for all the Sea-men know when they are upon these coasts, by the multitude of Serpents that meet them. And so do the Serpents called *Grae* about *Persis*. And the Coast of *Barace* hath the same noysome premonstration, by occurrence of many odious, black, and very great Sea-serpents. But about *Barygaza* they are lesse, and of yellow earthy colour; their eyes bloody, or fiery red, and their heads like Dragons. *Keranides* writeth of a Sea-Dragon, in this manner, saying: The Dragon of the Sea is a fish without scales, and when this is grown to a great and large proportion, whereby it doth great harm to other creatures, the winds or clouds take him up suddenly into the air, and there by violent agitation, shake his body to pieces: the parcels whereof so mangled & torn asunder, have been often found in the tops of the Mountains. And if this be true (as it may well be) I cannot tell whether there be in the world a more noble part of Divine providence, and sign of the love of God to his creatures, who armeth the clouds of heaven to take vengeance of their destroyers. The tongue of this Sea-Dragon (saith he) is like a Horses tayl, two foot in length; the which tongue preserved in Oyl, and carried about by a man, safeguardeth him from languishing infirmities, and the fat thereof, with the herb Dragon annoynted on the head or sick parts, cureth the head-ache, and driveth away the Leprosie, and all kinde of scabs in the skin.

Here is also the picture of another Sea-serpent, very like to the Serpent of the earth, being three or four cubits long, having a rounder belly then an Eel, but a head like a Conger, and the upper chap is longer, and standeth out further then the nether chap; the teeth grow therein as they do in Lampreys, but they are not so thick, and it hath two small finnes neer the gills like an Eel. The colour of it is yellow, but the beak and belly is of Ash-colour, the eyes yellow, and in all the inward parts it doth not differ from a Lamprey, and there is no man of any understanding, (as writeth *Rondeletius*) but at the very first sight, will judge the same to be a Serpent although the flesh thereof



Among the manifold kinds of Sea-Serpents, as we have seen in the last chapter, some like the Manx, and many others, are distinguished by their heads as different from the rest, for that is more like a crocodile than a serpent, it is pointed, and has a large eye, and a long snout, which is furnished with many sharp teeth, and is capable of being extended and retracted at pleasure. This is the head of the Sea-Serpent, which is the most dangerous of all the kinds, and is the one that is most commonly seen. It is the head of the Sea-Serpent, which is the most dangerous of all the kinds, and is the one that is most commonly seen. It is the head of the Sea-Serpent, which is the most dangerous of all the kinds, and is the one that is most commonly seen.

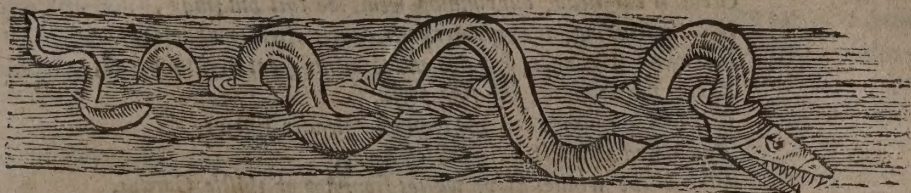
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There is no more to be said of the Sea-Serpent, but I must leave it to the reader's judgment. The foot of the Sea-Serpent is also very large, and is capable of being extended and retracted at pleasure. And some say may be seen in the Sea. The Sea-Serpent is also very large, and is capable of being extended and retracted at pleasure. And some say may be seen in the Sea. The Sea-Serpent is also very large, and is capable of being extended and retracted at pleasure. And some say may be seen in the Sea.

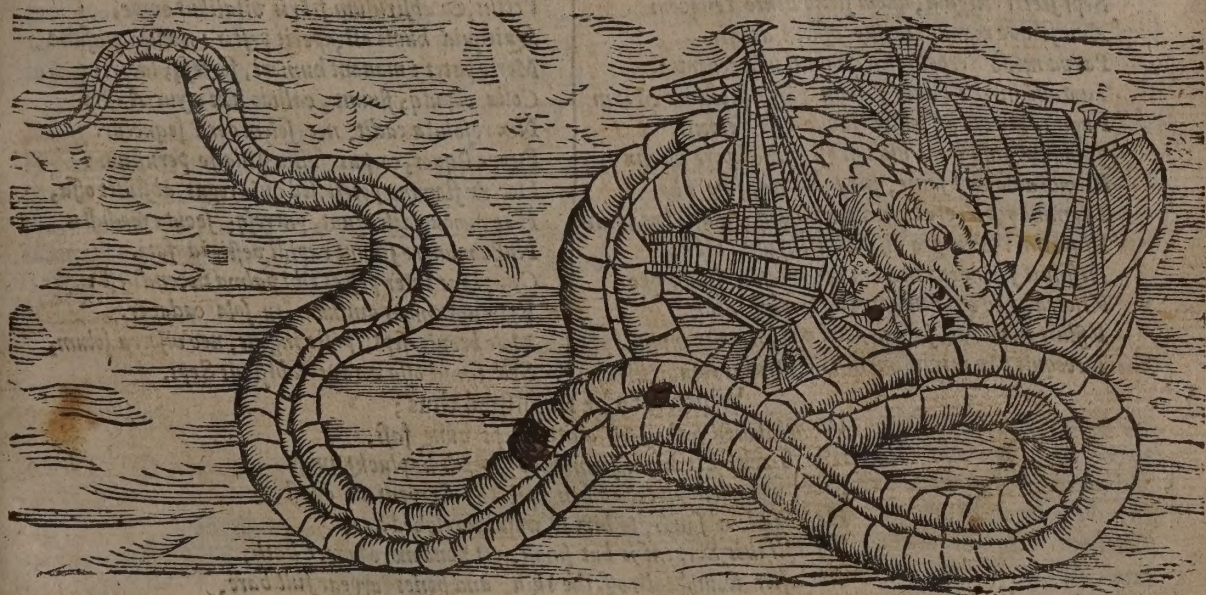
be no more harmfull then the Conger or Lamprey; yet for similitude with other Serpents, I could not chuse but expresse the same in this place,



There be also in the *Suevian* Ocean or *Baltick* sea, Serpents of thirty or forty foot in length, whose picture is thus described, as it was taken by *Olaus Magnus*, and he further writeth, that these do never harm any man untill they be provoked.



The same Author also expresseth likewise the figure of another Serpent, of a hundred and twenty foot long, appearing now and then upon the coasts of *Norway*, very dangerous and hurtfull to the Sea-men in calms and still weather, for they lift up themselves above the hatches, and suddenly catch a man in their mouths, and so draw him into the Sea out of the Ship: and many times they overthrow in the waters a laden Vessel of great quantity, with all the wares therein contained. And sometimes also they set up such a spire above the water, that a Boat or little Bark without sayls may passe through the same. And thus much for the Sea-serpents.



Of the SEPS or SEPEDON.

Although I am not ignorant that there be some which make two kindes of these Serpents, because of the two names rehearsed in the title, yet when they have laboured to describe them severally, they can bring nothing or very little wherein their story doth not agree, so as to make twain of them, or to handle them asunder, were but to take occasion to tautologize, or to speak one thing twice. Wherefore *Gesner* wisely pondering both parts, and after him *Cayronus*, deliver their opinions, that both these names do shew but one Serpent, yet according to their manner, they expresse them as if they were two. For all their writings do but minister occasion to the Readers to collect the truth out of their labours, wherefore I will follow their opinion, and not their example. Sepedon and Seps cometh of *Sepein*, because it rotteth the body that it biteth: in colour it neerly resembleth the *Hæmorre*, yet it usually goeth by spires and half-hoops, for which cause as it goeth, the quantity cannot be well discerned, the pace of it being much swifter then the *Hæmorre*. The wound that it giveth is smarting, entring deep and bringing putrefaction, for by an inexplicable celerity, the poyson passeth over all the body, the hair rotteth and falleth from all parts, darknesse and dimnesse is in the eyes, and spots upon the body, like as if a man had been burned in the Sun. And this Serpent is thus described unto us by *Nicander*;

*Jam quæ Sepedonis species sit, quæque corpus
Accipe: diversa tractum ratione figurat.
Quin etiam mutile nulla insunt cornua fronti,
Et color, hirsuti qualem est spectare tapetis,
Grande caput, brevior dum currit, cauda videtur:
Quam tamen obliquo majorem tramite ducit.
Quod fit ab hoc vulnere, magnos nocuosque dolores*

*Excitat, interimens quia fundit & ipse venenum,
Quo sata marcentes tabes depascitur artus,
Indeque siccata resolutus pelle capillus
Spargitur, & volitans candentis pappus achane,
Præterea fœdum turpi vitilagine corpus,
Et veluti urenti maculas à sole videre est.*

Which may be Englished thus;

*Sepedons shape now take, and what his form of body is,
It doth not go as Hemorrhoe doth, but traileth diversly.
His powdered head of Hemorrhoe's horns full happily doth misse,
And colours are as manifold as works of Tapestry:
Great is his head, but running seems the tail but small;
Which winding, it in greater path draws after to and fro,
But where it wounds, by pains and torments great it doth appall,
Killing the wounded, infusing poyson so.
Whereby consumed are the lean and slender sinews,
And dried skin lets hair fall off apace,
Like as the winds drive whites from top of thistle Cardus,
Besides the body filth, as with Sun parched, loseth grace.*

Thus doth Nicander describe the Sepedon: now also we will likewise relate that which another Poet saith of the Seps, that both compared together, may appear but one, therefore thus writeth Lucan, upon occasion of one Sabellus wounded by this Serpent.

Miserique in crure Sabelli

*Seps sterit exiguus, quem flexo dente tenacem
Auulsiſitque manu, piloque affixit arenis.
Parva modò Serpens, sed qua non ulla cruenta
Tantum mortis habet: nam plaga proxima circum
Fugit raptâ cutis, pallentiaque ossa reſexit.
Jamquæ sinu laxo nudum est sine corpore vulnus:
Membra natant sanie, juræ fluxere, sine ullo
Tegmine poples erat: femorum quoq; musculus omnis
Liquitur: & nigra distillant inguina tabe.
Diffiliit stringens uterum membrana, fluminaque
Viscera, nec quantum toto de corpore debet,
Effluit in terras sævum, sed membra venenum
Decoquit: in minimum mors contrahit omnia virus.*

*Vincula nervorum, & laterum textura, cavumque
Pectus, & abstrusum fibræ vitalibus omne,
Quicquid humo est, aperit pestis: natura profana
Morte patet: manant humeri, fortesq; lacerti:
Colla caputq; fluunt, callido non ocyus Austro
Nix resoluta cadit, nec solem cera sequetur.
Parva loquor, corpus sanie stillasse perustum:
Hoc & flamma potest, sed quis rogus abstulit ossa,
Hæc quoque discedunt, putresq; secuta medullas
Nulla manere sinunt rapidi vestigia fati.
Cyniphias inter pestes tibi palma nocendi est:
Eripiunt omnes animam, tu sola cadaver.
Mole brevis seps, peste ingens, nec viscera solum,
Sed simul ossa vorans tabificus Seps.*

Which is to be Englished thus;

*On wretched Sabell's leg a little Seps hung fast,
Which with his hand from hold of teeth he pluckt away
From wounded place, and on a pile the Serpent all agast
He staked in sands, to him O woful wretched day,
To kill this Serpent is but small, yet none more power hath,
For after wound falls off the skin, and bones appear full bare,
As in an open bosome, the heart whole body gnaweth,
Then all his members swam in filth: corruption did prepare
To make his shanks fall off, uncovered were knee-bones,
And every muscle of his thigh resolved, no more did hold,
His secrets black to look upon, distilled all Consumptions,
The rim of belly brake out fierce, which bowels did infold,
Out felt his guts on earth, and all that corps contain,
The raging venom still heating members all,
So death contracted all by little poysons main,
Unloosing nerves, and making sides on ground to fall:
This plague the hollow breast and every vital part
Abstrused, where the fibres keep the life in ure,
Did open unto death: The life, the lungs, the heart.
O death profane, and enemy unto nature.
Out flew the shoulders great, and arm-blades strong,
Both neck and head gush out in matter, all doth run,
No snow doth melt so soon the Southern blast among,
Nor wax so fast dissolve by heat of shining Sun.
These things which now I speak I do account but small,
That corps should run with filthy core, may caused be by flame.*

Yet bones are spared in fire, here all away they fall,

Of them and marrow sweet, fate lets no sign remain.

Among the Cyniph plagues, this still shall bear the bell,

The soul they take, this soul and carcase both,

The Seps, though short it be, in force it is a bell,

Devouring bones, the body all undoth.

Thus you hear that more largely expressed by *Lucan* of the Seps, which was more briefly touched by *Nicander* of the Sepedon, and all cometh to one end, that both kill by putrefaction. The length of this Serpent is about two cubits, being thick toward the head, but thin and slender toward the tail. The head thereof is broad, and the mouth sharp, it is of many colours, so as some have thought that it could change colour like a *Chamaeleon*. The four under teeth are hollow, and in them lyeth the poyson, which are covered over with a little skin.

Pausanias affirmeth that he himself saw one of them, and that *Egyptus* the son of *Elatas*, a King of *Arcadia* was slain by one of these. They live in Rocks, in hollow places of the Valleys, and under stones, and they fear no Winter, according to this verse of *Pictorius*.

Hic hyemis calidus frigora nulla timet.

Which may be Englished thus;

Of Winters cold it hath no feat,

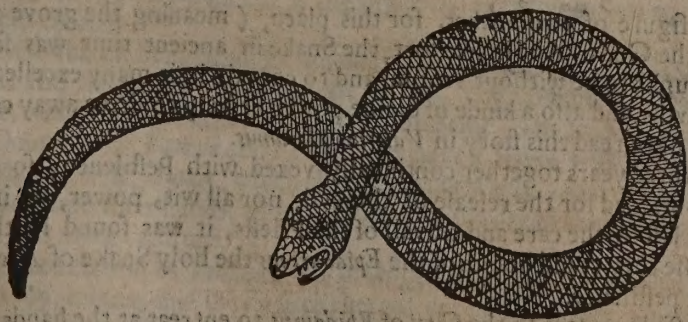
For warm it is throughout the year.

First of all after the wound appeareth some blood, but that symptom lasteth not long, for by and by followeth matter smelling very strong, swelling tumor, and languishing pain, and all the parts of the body affected herewith become white, and when the hair falleth off, the patient seldom liveth above three or four days after. The cure hereof is by the same means that the poyson of the Viper, the Amodyte and Horned-serpent is cured withal. And particularly *Aetius* prescribeth a sponge wet in warm Vinegar to be applyed to the wound, or else to lay the ashes of chaffe with the earth upon which they are burned, to the place, and to anoint it with Butter and Honey, or else lay unto it Millet and Honey, likewise Bay-sprigs, Oxymel, Purslain, and in their dyet salt fish.

Aetius.

Aristotle writeth of a little Serpent, which by some are called a sacred and holy Serpent, and he saith that all other Serpents do avoid it, and flie from it, because whatsoever is bitten by it, presently rotteth. It is in length (as he saith) a cubit, and it is rough all over, and therefore I take this Serpent to be a kinde of Sepedon. Also *Aristoxenus* saith, that he knew a man by touching this Serpent to die, and afterward that the garment which he wore at the time of the touching of the Serpent, did likewise rot away. And thus much for the Seps and Sepedon.

of the SLOW-WORM.



This Serpent was called in ancient time among the *Grecians* *Tybllops* and *Typhlynes*, and *Cophia*, because of the dimnesse of the sight thereof, and the deafnesse of the ears and hearing, and vulgarly at this day it is called in *Greece*, *Tephloti*, *Tefliti*, and *Tephlini*, and from hence the *Latines* have taken their word, *Cecilia*, quae *caecus Serpens*, a blinde Serpent, and it is also called *Cernula*, *Cacnla*, and *Ceriella*, as witnesseth *Albertus*, because the eyes thereof are

Scaliger.

none at all, or very small. The *Italians* call it *Bisa orbala*; and the *Florentines*, *Lucignola*; the *Germans*, *Blindenscheber*; the *Helvetians*, *En vieux*, at *annoix*, and the people of *Narbon*, *Nadels*.

It being most evident that it receiveth name from the blindenesse and deafnesse thereof, for I have often proved, that it neither heareth nor seeth here in *England*, or at the most it seeth no better then a *Mole*. The teeth are fastned in the mouth, like the teeth of a *Chamaeleon*, the skin is very thick, and therefore when the skin is broken by a hard blow, the whole body doth also break and part asunder. The colour is a pale blew, or sky-colour, with some blackish spots, intermixed at the sides. There is some question whether it hath one or two rims on the belly, for seeing they conceive their young ones in their womb, they have such a belly by nature, as may be distended and stretched accordingly as the young ones grow in their womb. It hath a smooth skin without all scales. The neather eye-lid covereth all the eye it hath, which is very small: about the head they are more light coloured, then about the other parts of the body: The tongue is cloven, and the top thereof very black. They are in length about a span, and as thick as a mans finger, except toward the tail which

Oswaldus.

which is more slender, and the female is more black then the male. The passage or place of excrements or conception is transverse. If they be killed with the young in their belly, the little ones will instantly creep out at their dams mouth, and sometimes (as witnesseth *Bellonius*) in this little Serpent are found forty little young ones. They are in *Greece* and *England*, and come not abroad till *July*, and they go into the earth in *August*, and so abide abroad all harvest, and they love to hide themselves in Corn-fields under the ripe corn when it is cut down. It is harmlesse except being provoked, yet many times when an Ox or a Cow lyeth down in the pasture, if it chance to lie upon one of these Slow-worms, it biteth the Beast, and if remedy be not had, there followeth mortality or death, for the poyson thereof is very strong. If it swell, it is good to prick the place with a brazen bodkin, and then apply unto it Fullers-earth and Vinegar. There is a Triacle made of the Slow-worm, which smelleth like *Aqua-vite*; with this some men are cured of the Plague. And thus much of this little Serpent.

Of the SNAKE.

There is no reasonable learned man that maketh question, that *Anguis* in *Latine* is a general word for all kinde of Snakes and Serpents, and therefore when *Virgil* writeth of the fury *Alecto*, how she cast a Snake into the bosome of *Amata*, he first of all calleth it *Anguis*, a Snake, and presently after *Coluber* & *Vipera*, a Serpent, as appeareth by these verses following. *Aeneid.* 7.

Huic dea cœruleis unum de crinibus anguem

Conjicit, inq; sinum præcordia ad intima subdit:

Vipeream inspirans animam, fit tortile collo

Aurum ingens Coluber. —

Which may be Englished thus;

To her the Goddesse a Snake made of the Gorgons hair,

Which to the bottom of her breast and entrails made to slide,

Inspiring to her a Vipers soul though she were fair,

For chain of gold an Adder bout her neck did glide.

And this is the lesse to be admired or doubted, seeing the very word *Anguis* seemeth to be derived of *Angulosus*, winding or turning, for every kinde of Serpent may be folded or winded up together almost in every fashion. Yet sometimes, as the *Græcians* use *Ophis* for one kinde, as *Hemorrhe* or *Hor* for Asp, so also is the word *Anguis* used for one kinde, which we call a Snake, that is, a little Serpent living both in the water and on the earth. Howbeit, as we shall shew afterward, when it is in the water it is called *Hydrus* and *Natrix*, and when it is on the land, it is called *Cheersydus*.

Among the ancient Pagans, Snakes were accounted the gods of the Woods, and this caused *Persius* to write this verse following;

Pingite duos angues, pueri, sacer est locus.

That is, O ye children, draw the figure of two Snakes, for this place, (meaning the grove of Wood) is a holy place, and sacred to the Gods. And in like sort, the Snake in ancient time was sacred to *Aesculapius*, because it was thought to be without venom, and to contain in it many excellent medicines or remedies against other evils, and also a kinde of divine power or help to drive away calamities, whereof I remember that I have read this story in *Valerius Maximus*.

Rome (saith he) our City was for three years together continually vexed with Pestilence, so as neither the mercy of God could be obtained for the release of this evil, nor all wit, power, or industry of man put an end unto it. At last by the care and travail of the Priests, it was found in the writing and Books of *Sibyll*, that unlesse they could obtain of the *Epidaurians* the holy Snake of *Aesculapius*, there should be no end of that pestilence.

For which cause there were Ambassadors sent to the City of *Epidaurus*, to entreat at the hands of the Citizens and Priests, that holy Beast or Snake (as was prophaneely supposed) and they attained the end of their journey, for the *Epidaurians* did kindly entreat them, and sent the Snake of *Aesculapius*, and then (saith he) *Tam promptam Epidauriorum indulgentiam numen ipsius Dei subsequutum, verba mort alium cœlesti obsequio comprobavit:* That is, The very grace and power of God seconded that favourable indulgence of the *Epidaurians*, and with an heavenly obsequiousnesse allowed and performed the words and writings of mortal creatures, (meaning the *Sibyls* writings aforesaid.) For that Snake (which the *Epidaurians* never see but they worship, with as great reverence as they would *Aesculapius* himself; for it never appeareth but for their exceeding great good and commodity) began to slide about the broadest streets and noblest part of the City, gently looking upon every body, and licking the earth, and so continued three days, to the religious admiration of all the beholders, bearing an undoubted aspect and alacrity, for the obtaining and aspiring a more beautiful habitation: so at last it came to the Isle neer *Rome*, called *Tyrimis*, whereinto in the sight of all the Mariners it did ascend and enter, and lodged it self round in that place, where standeth the house of *Quintus Ogulimus*: which story is thus most excellently followed by *Ovid* in his *Metamorphos*.

The

The folk of Rome came hither all by heaps, both men and wives,
 And eke the Nuns that keep the fire of Vesta as their lives
 To meet the God, and welcome him with joyful noise : and as
 The galley rowed up the stream, great store of incense was
 On altars burnt on both the banks, so that on either side,
 The fuming of the Frankincense, the very air did hide,
 And also slain in Sacrifice full many cattel dyed.
 Anon he came to Rome, the head of all the world : and there
 The Serpent lifting up himself began his head to bear
 Right up along the mast, upon the top whereof on hie,
 He looked round about a meet abiding place to spie :
 The Tyber doth divide it self in twain, and doth embrace
 A little Isle *Triremis*, for so the people tearm the place,
 From either side whereof, the banks are distant equal space :
 Apollo's Snake descending from the mast, conveyed him thither,
 And taking off his heavenly shape, as one repairing hither,
 To bring our City healthfulnesse, did end our sorrows quite.

Thus saith *Ovid* : But the truth is, that the Poet did but faign this thing for the excitation and stirring up of the mindes of men to Religion and religious worship of the Heathen Gods ; and therefore this Snake of *Epidaurus* was but a fiction, and therefore in the beginning of the History he maketh it to be *Æsculapius* in the likenesse of a Snake, for in a vision he sheweth how that *Æsculapius* appeared to the Roman Ambassador, and told him that he would appear in that form, saying ;

*Pone metus, veniam, simulachraq; nostra relinquam,
 Hunc modo Serpentem, baculumq; neribus ambis,
 Perspice & usq; nota, visum ut cognoscere possis ;
 Vertar in hunc, sed major ero, tantusq; videbor,
 In quantum verti celestia corpora possunt.*

Which may be Englished thus ;

*Fear not, for I will come and leave my shrine.
 This Serpent which doth wreath with knots about this staffe of mine,
 Mark well and take good heed thereof, for into it transformed will I be,
 But big too I will be, for I will seem of such a size,
 As wherein may celestial bodies turn suffice.*

But all Poets are so addicted to faigning, that I may self may also seem while I imitate them, to set down fables for truth : and if ever there were such a Snake as this, it was Diabolical, and therefore in nature nothing to be concluded from it, and in that place of Rome called *Biremis* and *Triremis*, was *Æsculapius* worshipped. And at this day in the Gardens called *S. Bartholomews-Gardens*, there is a Marbleship, on the side whereof is the figure of a creeping Snake, for the memory of this fact, as writeth *Gyraldus*.

But in the Emblems and documents of the ancient Heathen, it is certain that *Æsculapius*, and the Snake and the Dragon, did signifie health, and from hence it came to have the name of the Holy-snake, and also to be accounted full of medicine. The true occasion in nature, was for that about the Countries of *Bononia* and *Padua*, they have a Snake which they call *Bisse*, and *Bisse-angue-sanca*, and about *Padua*, *Autza*, which they say is harmlesse. And as well children as men, do often take up the same into their hands, with no more fear and dread then they would do a Coney, or any other tame and meek creature.

By the relation of *Pellinus*, it is in length five spans and five fingers, the head also compared with the body, is long, and in the neck thereof are two blanches, and betwixt them a hollow place, the back part whereof is attenuated into a thin and sharp tail, and upon either chap they have many teeth, which are sharp, and without poyson ; for when they bite, they do no more harm then fetch blood only, and these men for ostentation sake wear about their necks ; and women are much terrified by them in the hands of wanton young boys. The back of this Snake, (as writeth *Erastus*) is blackish, and the other parts green, like unto Leeks, yet mixed with some whitenesse, for by reason it feedeth upon herb, it beareth that colour. They are also carryed in mens bosoms, and with them they will make knots. For the same *Erastus* affirmeth, that he saw a Fryer knit one of them up together like a garter, but when he pulled it harder then the Snake could bear, it turned the head about and bit him by the hand, so as the blood followed, yet there came no more harm, for it was cured without any medicine, and therefore is not venomous.

In the Mountain of *Mauritania* called *Ziz*, the Snakes are so familiar with men, that they wait upon them at dinner time like Cats and little Dogs, and they never offer any harm to any living thing, except they be first of all provoked. Among the *Bygerons* inhabiting the *Pyrenes*, there be Snakes four foot long, and as thick as a mans arm, which likewise live continually in the houses, and not only come peaceably to their table, but also sleep in their beds without any harm, in the night-time.

Phurnut.

Lea Afric.

Olaus.

time they hisse, but seldom in the day time, and pick up the crums which fall from their tables. Among the Northern people they have household Snakes, as it were household Gods, and they suffer them both to eat and to play with their Infants, lodging them in the Cradles with them, as if they were faithful Keepers about them, and if they harm any body at any time, they account it *Pium piaculum*, a very divine and happy mischance. But after they had received the Christian faith, they put away all these superstitions, and did no more foster the Serpents brood, in detestation of the Devil, who beguiled our first Parents in the similitude of a Serpent. Yet if it happen at any time that a house be burned, all the Snakes hide themselves in their holes in the earth, and there in short space they so encrease, that when the people come to re-edifie, they can very hardly displant their number. *Plautus* in his *Amphitryo*, maketh mention of two named Snakes, which descended from the clouds in a shower; but this opinion grew from the fiction of the *Epidaurian Snake*, which only by the Poets is described with a mane and a combe, and therefore I will not expresse the Snakes to have a mane.

There is no cause why we should think all Snakes to be without poyson, for the Poet hath not warned us in vain, where he saith;

Erigidus, o pueri fugite hinc, latet Anguis sub herba:

Which may be Englished thus;

Fly hence you boys as far as feet can bear,

Under this herb a Snake full cold doth leare.

For this cause we will leave the discourse of the harmlesse Snake, and come to those which are no way inferior to any other Serpent, their quantity and spirit being considered, wherefore we are to consider, that of Snakes which are venomous and hurtful, there are two kindes, one called the Water-snake, the other the Land-snake. The Water-snake is called in Greek, *Hydra*, *Hydros*, *Hydrales*, *Karouros*, and *Enhydri*, in Latine, *Natrix*, and *Lutrix*. *Munster* calleth it in Hebrew, *Zepha*, and *Avicen* relateth certain barbarous names of it, as *Handrius*, *Andrius*, and *Abides*, and *Kedasuderus*, *Echydru*, and *Aspistichon*. The Germans call it *Nater*, *Wasser-nater*, and *Wasser-schlange*: and they describe it in the manner as it is found in their Countrey, which doth not very far differ from them of our Countrey here in England. It is (as they say) in thicknesse like the arm of a man or childe, the belly thereof yellow, and of a golden colour, and the back blackish-green, and the very breath of it is so venomous, that if a man hold to it a rod newly cut off from the tree, it will so infect it, that upon it shall appear certain little bags of gall or poyson. And the like effect it worketh upon a bright naked sword, if it do but touch it with the tongue; for the poyson runneth from one end to the other, as if it were quick, and leaveth behinde a line or scorched path, as if it had been burned in the fire.

And if this Serpent fortune to bite a man in the foot, then is the poyson presently dispersed all over the body, for it hath a fiery quality, and therefore it continually ascendeth, but when once it cometh to the heart, the man falleth down & dyeth. And therefore the meetest cure is to hang the party so wounded up by the heels, or else speedily to cut off the member that is bitten. And that which is here said of the Water-snake, doth also as properly belong the Land-snake, seeing there is no difference betwixt these, but that at certain times of the year they forsake the water when it draweth or falleth low, and so betake themselves to the land.

They live in the water and in the earth, (but they lay their egges on the land in hedges or in dung-hills) and especially in those waters which are most corrupt, as in pools where there is store of Frogs, Leaches, and Newts, and but few fishes, as in the Lakes about *Puteoli*, and *Naples*, and in England all over the Fens, as *Ramsay*, *Holland*, *Ely*, and other such like places, and when they swim they bear their breast above the water. They abound also in *Corcyra*, and about *Taracina* in Italy, and in the Lake *Nyctea*, and especially in *Calabria*, as the Poet writeth:

*Est etiam ille malus Calabris in saltibus Anguis,
Squammea convolvens sublato pectore terga,
Atque notis longam maculosus grandibus alvum,
Qui dum amnes ulli rumpuntur fontibus, & dum
Vere madent udo terræ ac pluvialibus austris,*

*Stagna colit, ripisque habitans hic piscibus atram
Improbis ingluviem, rarisque loquacibus explet.
Postquam exhausta palus terræque ardore dehiscunt,
Exilit in siccam & flammantia lumina torquens
Sevit agris, asperque siti, atque exterritis æstu.*

Which may be thus Englished;

*That evil Snake in the Calabrian coasts abides,
Rowling his scaly back by holding up the breast,
And with great spots upon large belly glides,
When as the Rivers streams in Fountains all are ceast.
For whiles the moistened Spring with rain from South wind falls,
It haunts the Pools, and in the water all black it feeds,
In ravening wise both Fish and Frogs do fill his gall,
For why, when Summers drought enforce, then must it needs
Fly to dry land, rowling his flaming eye,
Rage in the fields to quench his thirst full dry.*

There

There be some Writers that affirm, that there is a certain stone in a Water-Snakes head, which it casteth or vomiteth up when the skin thereof is fleyed from the body, and after it is so cast up, it must be received into a piece of silk, the vertue whereof is to be proved after this manner; Fill a brasse Caldron or Kettle full of water, and about the same vessel so filled, binde this stone fast, as it were to the handle or bayl thereof, and you shall finde that every day this stone so remaineth bound to the Kettle, that the water will decrease eighteen ounces. And this *Kiranides* affirmeth that he bound to a woman that had the Dropsie, and she was thereby delivered from her disease; for every day he found that her belly did fall the quantity of four fingers, until it came to the natural bignesse, and then he took it off, for he saith, that if he had not then taken it off, it would also have dried up the native humidity.

In like sort, the vertue of this stone is applyed against the rheume in the legs, or any flux of the eyes, ears or head, but the use of it must not exceed the quantity of three hours at a time. It also driveth out of the body all venomous Worms, and is a special remedy against their biting and stinging. This stone is also called *Serpentinus* and *Draconites*, but it is questionable whether it be generated in the head of the Snake, or by their vaporous breath, concurring together in the Spring or Winter season. Some of these stones are said to be of a blewish green colour, and the form thereof pyramidal: *Albertus* saith, he hath seen one of them that was black, and not lightsome, only about the edges of it there was some palenesse apparent, and in the superficies or upper part thereof, there was (as he writeth) a beautiful picture of a Snakes proportion, and the vertue thereof did put to flight venomous Beasts, and also cure their harmful poysons.

Such like things we have already shewed to be in the stone which the Toad is said to have, but this stone is more likely to be the *Ophites*, for in the Castle of *Tangra*, once the seat or habitation of *Charles* the fourth, there is a Chappel wherein are many precious stones, wrought in the walls and doors, and among divers other these *Ophites*. But whereas there is a pyramidal form attributed to these stones, I take it therefore that it is the same which *Pliny* calleth *Glossapetra*, for in shew it resembleth the tongue of a Snake, and the tongue of a Snake being great or broad at the root, and smaller toward the end or tip thereof, is rightly said to be of a pyramidal form: and among the *Germans* it is called by a peculiar word, *Naterzungen*, that is, Snakes-tongue.

And such a kinde of stone as this Snakes-tongue, (as *Agricola* and some other Authors write) is found in a certain earth neer *Linuburgh* in *Saxony*. And *Conradus Gesner* affirmeth, that there is a certain Town in *Germany* called *Aenipou*, where there is one of these stones half a cubit long, and therefore it seemeth that they are not all generated in Serpents or Snakes heads. Among the *French-men* this stone is called *Sugne*, because there be Serpents seen in it twynning their tails together, or folding them one within another.

There was wont to be a superstitious way to extract or expresse this stone from out of the Snake, which was done in this manner; First, when they had taken the Snake alive, they did presently hang her up by the tail, then just underneath her they did make a suffumigation of Laurel, and so did conjure the Snake, saying; *Per Dominum qui te creavit, lapidem tuum quem in capite tenes te instanter ejicere jubeo*: This kinde of enchanting charm, I hold not worthy to be translated, and yet let me not be blamed for the relation of it, seeing it is pertinent to this story to know all the good and evill about these Serpents. And therefore, not to expresse the same at all, might argue in me, either ignorance, or filly precisenesse: and again on the other side, to make it vulgar, might bring me into suspition of some approbation: therefore let the Reader know it from me, but understand it from some other.

And for mine own opinion, I account no better of these Snake-stones then I do of the Toad-stones, concerning which I have already given my opinion in another place. And therefore what here is related of this stone, let it be examined, and then be either received or refused.

Many, and almost infinite are the Epithets which are given to Snakes, whereby their nature is expressed, as *Aliger anguis*, the winged Snake, black, fierce, blew, greedy, wilde, cold, Gorgonean, wreathen, sliding, deadly, lightsome, spotted, martial, threatening, purple, wholesome, scaly, terrible, winding, grim, swelling, fearful, venomous, green, infolded or implicit, horrible, hissing, Marsian, Maurian, pestilent, retorted, and such other like, as it hath pleased the severall Authors writing hereof to ascribe and attribute unto it. Which we will not prosecute with any explication, but only leave them to the Readers pleasure, being only content to nominate them.

There is great account or reckoning made of their egges, which they lay in the Summer time, for first of all they are so glewed and conjoynd together, partly with the spittle and moistnesse which proceedeth from their mouths, and partly with the spume and froath of their own body, that a man seeing their heaps, would judge them to be coupled together by some artificial devise. These egges thus knotted together in bunches, the *Latines* call *Anguinum*. The *Druides* or ancient Wisards of *England* and *Scotland*, have delivered, that if the Snake hisse, these will of their own accord fly up into the air, and then if some wise man take them by prevention, before they touch the ground again, the Snakes will follow him as fast as any Horse, until he come to some River, into the which they dare not enter.

And the folly of these also proceeded so far, that they were not ashamed to report, that if one of these *Anguines* or bunches of egges, were tyed to a piece of gold, it would swim in a River against the stream. These they commended unto Princes and Great men to carry about with them in the time of wars and other contentions, and that therefore when a *Roman Knight* of *Volontii*,
was

was found by *Claudius* to carry one of these about him, he was by the Emperors commandment put to death.

But to leave vanities, we will prosecute the true and natural description of their egges in this manner; They are round and soft, in colour white, cleaving (as we have already said) together in great bunches, forty, or fifty, or a hundred in a cluster, without, they are covered with a skin or crust, much harder and whiter then the substance contained within it, which is like matter, or the rotten Egges of a Hen or Duck, in quantity as big as Bullies, Plums, and seldom bigger, being most commonly very round and orbicular. Yet *Gesner* reporteth, that he had one sent him of the proportion of a Lentil, and as great as the fist of a Man, and within every egge appear certain small things, like the tails of Serpents, or Leaches, being in number ten, five greater and five smaller, one folded or lapped within another. And these have also little pustules upon the skin or crusts, whereof one doth not touch the other.

Out of these Egges come the young ones, but I cannot affirm what great affection the old ones bear unto them, or that when many Snakes lay their egges together every one in that multitude hath skill to discern her own Egges from the other. For I have been with other my Colleagues or School-fellows when I was young, at the destruction of many thousands of them, and never perceived that the old Snake did with any extraordinary affection fight for their egges, but rather forsook them, and suffered us to do with them what we pleased: which sometimes we brake, sometimes scattered abroad upon the dunghill out of which we digged them, and sometimes we cast them into the next River we came at, but never saw any of them recollected again to their former place by the Snakes, although the place were very full of them, and therefore I conclude for mine own experience, that Snakes cannot be perceived to bear any exceeding love in nature to their egges or young ones.

Their ordinary food for the most part, is earth, Frogs, Worms, Toads, and especially Paddocks, or crook-backed Frogs, Newts, and small fishes. The Foxes and Snakes which are about the River *Nilus* are at continual variance, and besides, the Harts are by nature common enemies to all Serpents.

They are not in venom inferiour to other Serpents, for they infect the waters neer to houses, and are many times the causes of diseases and death, whereof the Physitians cannot discern. When they bite or sting, there followeth extream pain, inflammation, greenesse or blacknesse of the wound, dizziness in the head, and death within three days. Whereof dyed *Phylotetes*, General of the Fleet of Greece, in *Lemnos*, *Dedalus* and *Menalippus*.

The cure of this evil must be by Origan stamped and laid to the sore with Lie and Oyl, or ashes of the root of an Oak with Pitch, or Barley-meal mixed with Honey and Water, and sod at the fire. And in drink take wilde Nosewort, Daffadil flowers, and Fennel-seed in Wine. And it is also said, that a man carrying about him the Liver of a Snake, shall never be bitten by any of that kinde. And this Liver is also prescribed against the Stone in the Bladder, being drunk in strong drink. And thus much for this Serpent.

Of Spiders and their several sorts.

And first of those that are commonly called PHALANGIES.

Doctor Bonham's discourse of Spiders.

THIS kinde of venomous creature, of the Latines is called *Aranus*, or *Aranea*, and of Cicero in his Books *De natura Deorum*, *Araneola*, and *Araneolus*. Of the Grecians, *Arachnes* or *Arachne*. *Hesiodus* termeth it *Stibe*; the Hebrews name it *Acobitha*, *Acbar*, *Acabith*, and *Semamith*; the Arabians, *Sibih*, and *Phibib*; in the German tongue *Spin*, and *Banker*; in English, *Attercop*, *Spider*, and *Spinner*; of the Brabanders, *Spinne*; in France, *Araigne*; in Italy, *Ragno*, and *Ragna*; in Spain, *Arana* or *Tarana*; of the Illyrians it is called *Spawanck*; of the Polonians, *Pajak*, and *Pajeczino*; of the Hungarians, *Pex*; of the Barbarians, *Koatan*, and *Kerserat*. *Isidore* in his twelfth Book saith, that the Spider is termed *Aranus*; because she is both bred and fed in the air: but herein he hath fallen into a double error. For if they lived only in the air, and by the air, as he would seem to enforce, I marvel to what end and purpose they should so busily make and pitch their nets for the ensnaring of flies? And if they receive their first being and breeding in the air, I cannot see to what purpose they do either lay egges, or exclude small little Worms after their coupling together.

But we will easily pardon this presumptuous Etymologist, and diver deep into Interpretations, with others also of the same humor, whose ordinary custom thus to dally and play with words, is with them esteemed as good as Statute-law, for the most part. There are many sorts of Spiders, and all of them have three joynts a piece in their legs.

Estq; caput minimum toto quoq; corpore parvum est,

In latere exiles digiti pro crutibus haerent,

Latera venter habet, de quo tamen illa remittet

Stamina.

Which

Which may be Englished thus;

Little is their head, likewise the body small,
All over is, and fingers thin upon the sides,
In stead of legs, out of the bellies flank do fall:
Tet out of which she makes her web to glide.

All Spiders are venomous, but yet some more, and some lesse. Of Spiders that neither do nor can do much harm, some of them are tame, familiar, and domestical, and these be commonly the greatest among the whole pack of them. Others again be meer wilde; living without the house abroad in the open air, which by reason of their ravenous gut, and greedy devouring maw, have purchased to themselves the names of Wolves, and hunting Spiders. The least sort of these weave no webs at all, but the greater beginneth to make a small and harsh web about hedges nigh unto the earth, spreading and setting the same abroad in the very entry, and in void places neer their lurking holes, their deceitful nets, observing very diligently the stirring of their deceitful webs, and perceiving them moving, though never so lightly, she maketh no stay, but with all speed possible hastneth her self to the place, and whatsoever she there findeth, she seizeth upon as her lawful prize.

The most dangerous and hurtful Spiders are called *Phalangia*, if they bite any one, (for they never strike) their poyson is by experience found to be so perillous, as that there will a notable great swelling immediately follow thereupon. These kindes of venomous Spiders, are of two sundry sorts, for some of them are lesser, and some greater. The lesser sort are very unlike one to another, and of changeable colours, violent, libidinous, hot, stirring, sharp-topped, holding on their pace and way, as it were in jumping manner or leaping-wise: and these I finde to be called by *Aristotle* in his 11. Book *De Animal. Psullas*, or *Pulices*, and *Pitbeci* or *Simii*. Of some they are called *Oribates*, because they are usually found among Trees that grow upon Mountains. They are also called *Hypodromi*, because they live under the leaves.

The *Phalangium* or *Phalanx* Spider, is unknown in *Italy* (as *Pliny* saith) and there are found many sorts of them. One sort of them is very like unto a great Pismire, but much bigger, having also a red head, but all other parts are black, speckled, and garnished with many white spots running all alongst their bodies. This formicarian or Pismire-like *Phalanx*, of *Aetius* is described to have a body much resembling foot in colour, his neck ash-coloured, and his back glistering, as it were with many stars on it. *Nicander* calleth it *Agrostes*, and *Aetius*, *Lucos*. The *Latines* tearm it *Venator*, that is, the Hunter. This stingeth but weakly, without any pain at all, but yet it is somewhat venomous, though not very much. This kinde of *Phalanx* is often found among Spiders webs, where (after the fashion of some Hunters) they beguile and intrap Flies, Gnats, and Bees, Gad-flies and Wasps. And (if *Lonicerus* write no more then may be warranted for truth,) those great Horse-flies or Ox-flies and Brimsees, that in Summer season vex Cattle, and whatsoever they lay their clowtches on, that they hold fast and destroy; and thus live they by taking of booties and preys.

There is no man (I think) so ill advised, that will confesse this to be the same creature which *Aristotle* calleth *Pulex*, for the body of that by his description is broad, rowling, round, and the parts about the neck have certain lines or cuts: and besides, about the mouth there appear and seem to bud forth three eminencies or standings out.

There is another sort of *Phalangium*, called by *Nicander*, *Rox*, of *Aetius*, *Ragion*, of *Ælianus*, *Rhax*, (because it is so like the kernel or stone that is found in Grapes,) and this kinde of Spider is of a round figure, black in colour, the body glistering, and round as a ball, with very short stumped feet, yet nevertheless of a very swift pace. They have teeth, and their mouth is nigh their belly, and when they stir, they gather up their feet very round. In the description of this Spider, *Aetius*, *Ælianus* and *Pliny* do wholly consent and agree in opinion, and yet *Ælianus* was a little besides the way, when he set down *podas macrous*, for *microus*, long feet for short feet; and that this kinde of Spider was only found in *Lybia*, and not elsewhere.

That kinde of Spider termed of *Pliny*, *Asterion*, seemeth to be all one with the former, saving that this is more known by his little white spots made star-wise, and the glistering stripes or rays where-with his body seemeth to be over-sprinkled. *Pliny* only mentioneth this, as if *Aristotle*, *Aetius*, *Galen* and *Avicen*, had never heard of it.

The most venomous and hurtful of all these, is that which *Nicander* calleth *Pedeoros*, of colour azure, or bright blew, which hath long, high, and lofty feet on both sides of the body. The Scholiast addeth *Dasu* and *Meteoron*, that is, *lanuginosum* and *sublime*, soft like cotten or Wooll, and lofty or high, and not *sublime lanuginosum*, as *Lonicerus* translateth it. *Pliny* saith, that this Spider hath a black mossinesse or soft down, although it will scarce sink into my head, that any Spider that is of an azure or blew colour, hath any soft hairs, or woolly substance of a black colour.

There is another kinde of *Phalangium* Spider called of *Nicander*, *Dysderi*, which name is neither to be found in *Aristotle*, *Pliny*, nor *Aetius*, nor yet in any other ancient Author that ever I could read, which some others call, and that very properly, *Sphexion*, *quasi vesparium*, because it is so like a red Wasp, saving that it lacketh wings, and this Wasp-like Spider is of a passing deep red colour, and counted far worser then the blew Spider, although the azure or blew Spider only by

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touching doth infect with poyson, and will break any Cryстал glasse, if it run over it though never so speedily, or do but touch it in glancing wise, as *Scaliger* beareth witnesse.

There are two sorts of *Phalangie* Spiders called *Tetragnatha*, and the worser is that which hath half of his head divided with one white line, and another white line running crosse-wise. There is another of these not so hurtful as the former, and this is of an ash-colour, and very white in the hinder-parts. There is also a Spider coloured as this is, that maketh her web by walls sides for the taking of Flies, which as some affirm, hath little or no venom in it at all. *Aetius* saith, that the *Tetragnathus* is a kinde of *Phalangium*, having a broad and whitish body, rough footed, with two swelling or little bunches standing out in the head, the one somewhat broad, the other standing right forth, so that at the first, one would imagine that it had two mouths, and four jaws.

Aelianus in his xvij. Book, chap. 40. saith, that there is great store of these to be found in *India* about the River *Arrhata*, where their multitude is so dangerous and mischievous, as that they bring death and destruction to the Citizens and people bordering nigh those places. And *Strabo* the Geographer, in his xvj. Book telleth us, that beyond the *Lybian* and on the Western side of *Africk*, there is a Countrey left destitute of Inhabitants, having goodly large fields and pastures, being uninhabitable by reason of the multitude of Scorpions there bred, and of the Spiders called *Tetragnathoi*.

There is to be found in Harvest-time amongst Pease, Beans, and other sorts of pulse, (when they are gathered and reaped by the hand) certain small Spiders called *Kantharidessi Eikela*, in shew like unto *Cantharides* or Spanish-flies, of a very red and fiery colour, such as we Englishmen call *Twinges*, by eating or licking up of which, both Oxen and other Beasts do many times die. There is another kinde of *Phalangium* that breedeth altogether in the pulse, called *Ervum*, which is like unto Tares, and likewise in the Peach tree, which *Nicander* and *Aetius* tearm *Granocalaptes*, and *Dioscorides* nameth it *Kephalokroustes*, because it is so presumptuous bold as to strike at the hands of travellers by the High-ways, when as either it passeth down in gliding manner by her fine thread, or that she tumbleth down without any stay of thread or other support. It is a small creature to see to, keeping on the pace very fearfully, nodding with the head, reeling, and as it were staggering, being great and heavy in the belly, somewhat long of body, and of a greenish colour. It carryeth a sting in the top of her neck, and striking at any, she commonly aimeth at those parts which are about the head. And as *Aetius* saith, *En tois phullois tes per seias trepheteis, kai ta ptera echei homois tais en tais kustais psuchais*: That is, they are nourished in Peach tree-leaves, and they have wings like unto Butter-flies that are found amongst Barley.

Whereupon the Scholiast seemeth to insinuate to us, that this kinde of Spider is winged, which no man (as I judge) hath hitherto observed. *Ponzettus* and *Ardoynus* do take the *Granocalaptes* to be a *Tarantula*, but herein they are both mistaken, as was *Rabbi Moses* before them. The Spider called *Sclerocephalus*, in form differeth but little from the former. It hath a head as hard as a stone, and the lineaments and proportion of the body do much resemble those small creatures which are seen about Lamps lights, or candles in the night time.

There cometh in the last place to be described, the *Phalangie* Spider of *Apulia*, commonly known by the name of *Tarantula*, taking his denomination from the Countrey of *Tarentum*, where there are found great store and plenty of them. *Ferdinandus Ponzettus* imagineth, that it hath but only six feet, and *Ardoynus* is of the same judgement, and further faigneth, that it hath a stretched out tail. *Rasis* calleth a *Tarantula*, by the name of *Sypta*, *Albucahis*, *Alsari*, *Rabbi Moses*, *Aggonfarpa*, *Avicen*, *Sebigi*, *Doctor Gilbert*, *Taranta*, therein following *Ardoynus*, which maketh two sorts of *Tarantulaes*, the one of a brown, the other of a yellow colour and cleer shining, such as are to be found in *Egypt*. *Pliny* (as you read a little before) said that the *Phalangium* was not known in *Italy*, but in these days they are found throughout all the Southern parts of that Countrey, especially nigh the Sea-shore, as both Harvest-men and Hunters can well testifie by their own wofull experience.

Ponzettus was much deceived, when in his third Book and xv. chapter entreating of the Scorpion, he expressly affirmeth the *Phalanx* to be such a venomous flye. It is a vengible and cruel creature (as *Alexander ab Alexandro* saith) and to be touched, horrible, venomous and pestilent: and most especially their biting is exceeding venomous in the parching heat of the Summer, but at other seasons of the year not so great. There be many sorts of Spiders found in very cold Countries, but no *Phalangies* at all; or if there be any, yet have they very little poyson in them, and nothing comparable to them of hotter Climates.

All the sorts of *Phalangies* do lay their Egges in a net or web, (which for the purpose they make very strong and thick,) and sit upon them in very great number, and when their brood is increased to some growth, they kill their dam by their hard embracements, and sling her clean away; and further, casting off all fatherly affection, they many times serve the male with the same sauce, if they can come handlomely by him, for he is a helper to the female in sitting over their egges. They hatch at one time three hundred, as hath been seen by the testimony of *Bellonius*, in his Book *Singul. observat.* chap. 68. The *Tarantulaes* lie commonly lurking in holes, chinks, and chaps of the earth, and with their teeth they bite and wound at unawares, incircumspect Mowers, and harvest-folks, and rash Huntsmen, who think of no such matter: and therefore they that are acquainted with their sleights, do wear Boots and Gloves on their hands and legs, for their further defence, so often as they go forth either to hawking, hunting, or to reaping and mowing, or any such like labour in the common fields.

All these Spiders are venomous even naturally, for that is so settled and deeply fastened in them, as it can by no means be eradicated or taken away. Neither suck they this venom and poysonous quality from plants or herbs, as many men think, which in very truth they never so much as tast of, neither do they purchase this venomous complexion and nature from any naughty, hurtful, and malignant quality that is in their meat, by reason their chief food and sustenance is Flies, Gnats, and Bees; and without question they can suck and draw no such cacochemical juyce from their bodies. If the Formicarian (which I call the Pismire-like) *Phalangie* do bite any man, there will presently follow most fearful accidents: for it bringeth an exceeding great tumor upon the wounded place, the knees are loose and feeble, trembling of the heart, and decay of strength do succeed, and sometimes it induceth death it self.

The signes to know when one is bitten of any Phalangie and the effects of the same.

Nicander saith, that they who are bitten of this kinde of Spider, do fall into such a profound sleep, as that they will never be awaked, for they have and suffer that which Histories report of *Cleopatra* Queen of Egypt, who to escape the fingers of *Augustus*, because she would not be brought to Rome in triumph, caused two Serpents called Asps, to be set to her breasts, which did sting her to death, whose nature is to give a heaviness and sleep, without any shrinking or mark in the skin, only putting forth a gentle sweat out of the face, as if one were in a trance and hard to be awaked.

The Spider called *Agrostis*, maketh but a small wound with her biting, and in a manner without any pain at all, and no ways deadly, unlesse it be but slightly regarded, or that no care be had for the cure in the beginning. The *Phalangie* that is called *Dusderus*, which is fashioned like a Wasp, if he hurt any one by his biting, it causeth the same accidents that the azure or blewish-coloured Spider doth, but yet not altogether so terrible and vehement. And besides, the *Dusder* spider with her poyson, bringeth a wasting and pining away of the whole body by degrees, without any great sense.

If a man be poysoned with that kinde of Spider which is found among pulse, and is (as I said before) like unto *Spanish* Flies, there will presently arise certain pustules, risings or swellings, much like unto blisters, as if one were scalded with hot water, in which swellings there will commonly be much yellowish matter; besides, the patient is much disquieted, vexed, and too much out of order; the eyes seem to be writhed, deformed, looking askint on the one side, the tongue faltereth and stammereth, not being able to sound their words, or to pronounce directly: their talk is idle, they wander and rove up and down in great perplexity; their heart being tormented, tossed and turmoiled with an extraordinary kind of furious passion.

The Spider that is found in the pulse, called *Errum*, which is very like to Tares or Vetches, produceth by his venom the same evil effects that the former doth; and if Horses or other beasts do by chance devour any of them, their bodies are so inflamed by means of their unquenchable thirst, that many times they burst asunder in the midst. If the *Cranocalaptes* wound any man (as *Pliny* assureth us) it is not long before death it self do succeed. And yet *Nicander* and *Aetius* hold the contrary, and would make us believe that his hurt is soon remedied, without any great ado: yet herein they do consent, that if any be hurt with any Spider of this kinde, there will follow a great pain of the head, coldness, swimming and giddiness of the brain, much disquietness of the whole body, and pricking pains of the stomach. But notwithstanding all this (saith *Nicander*), the patient is soon remedied, and all these above-rehearsed passions quickly appeased and brought to an end.

The *Sclerocephalus*, as it much resembleth the *Cranocalaptes* Spider in form and proportion, so in his force, effect and violence they are much alike, causing the same symptoms, accidents and passions as the former. The wound that the Spider called *Ragion* inflicteth, is very small, so that a man can hardly discern it with his eyes; but yet if one be hurt therewith, the lower part of the eyes, and the eye-lids wax very red. Besides, the patient feelth a shivering cold or chilnesse in his loins, with weakness and feebleness in the knees, yea the whole body is taken with a great quaking cold, and the sinews by means of the violence and ranciness of the poyson, suffer a Convulsion. The parts serving to generation, are made so impotent and weak, as that they are not able to retain the seed, nor yet to contain their urine, which they void forth much like in colour to a Spiders-web, and they feel the like pain as they do which are stung with Scorpions.

Of the the wounding of the Star-spider feebleness and weakness followeth, so that one cannot stand upright, the knees buckle, sleep and shaking drowsiness seizeth upon the hurt parts: and yet the worst of all is the blewish Spider, for this bringeth dimness of the eye-sight, and vomiting, much like unto Spiders and cobwebs in colour, fainting and swooning, weakness of the knees, heavy sleeps, and death it self.

If a man be wounded of the *Tetragnathian* Spider, the place waxeth whitish, with an intolerable, vehement, and continual pain in it, and the member it self withereth and pineth away even to the very joints. Finally, the whole body by receiving any wholesome sustenance, is nothing at all relieved thereby, yea and after a man hath recovered his health, yet is he nevertheless disquieted by much watching for a long time after, (as *Aetius* writeth.) *Nicander* in expresse words confesseth, that the Ash-coloured *Tetragnath*, doth not by his biting infuse any venom or like hurt. If the speckled *Phalangie* of *Apulia*, which is usually known by the name of *Tarantula*, do bite any one, there will follow divers and contrary accidents and symptoms, according to the various constitution, different complexion, and disposition of the party wounded. For after they are hurt

by the *Tarantula*, you shall see some of them laugh, others contrariwise to weep, some will clatter out of measure, so that you shall never get them to hold their tongues, and othersome again you shall observe to be as mute as fishes: this man sleepeth continually, and another cannot be brought to any rest at all, but runneth up and down, raging and raving like a mad man.

There be some that imagine themselves to be some great Lords or Kings, and that their authority, Empire and signory, extendeth it self far and wide; and for that cause they will seem to charge others by vertue of their absolute and Kingly authority, and as they tender their favours, and will avoid their displeasure, to see this or that businesse dispatched; and with others again the contrary conceit so much prevaieth, as by a strong imagination they cannot be otherwise dissuaded but that they are taken prisoners, that they lie in some deep dungeon or prison, with bolts and shakels about their feet, so many as their legs can bear, or that their neck and feet lie continually in the stocks. You shall see some of them to be cheerful, quick of spirit, and lively, with dancing, swinging and shaking themselves. With others again you shall have nothing but sadness, and heaviness of minde, brown-studies, unaptnesse to do any thing, as if one were astonyed, so that nothing but numnesse, and dulnesse of moving and feeling, seemeth to pinch them, being to see to very senselesse.

In conclusion, as drunkennesse to sundry persons is not all one, but much different, according to the diversity of complexions, and natural constitution of the brain: so neither is the madness or frenzy fits of these persons all one that be infected with a *Tarantulaes* poyson: but some of them are fearful, silent, ever trembling and quaking: and others again are more fool-hardy, rash, presumptuous clamorous, full of noise, doing nothing else but call and cry out; and some few seem to be very grave, constant and stedfast, that will not alter their purposes for a world of wealth. But let them be affected either with this or that passion, yet this is common to them all, as well to one as to another, that they are generally delighted with musical Instruments, and at their sound or noise will so trip it on the toes dancer-like, applying both their mindes and bodies to dancing and frisking up and down, that during the time of any musical harmony, they will never leave moving their members and limbs, like a Jackanapes that cannot stand still. And which is more strange, they will use these motions and gestures when they are ready to depart this life, through the lingering stay and vehement cruelty of the poysons operation: and yet for all this, though they be so neer unto death, yet if they hear any musick, they come again to themselves, newly gathering their spirits and strength, and with a greater alacrity, promptnesse of minde and cheer, they foot it as frolickly as ever they did or could have done.

And thus doing and dancing both day and night, without any notorious intermission, and by their continued sweating, the poyson being dispersed into the pores of the skin, and evaporated by insensible transpiration or breathing out, are at length by this means recovered to their former health and state of body. And if the Pipers and Fiddlers cease playing with their musick, though never so little a while, before the matter of the poyson be in some part exhausted, then will they make a recidivation and returning to their former passions and griefs, with which they were at first tormented and disquieted. But yet this is the most strange, deserving the greatest admiration of all, that all those persons which are bitten or wounded by any *Tarantula*, they will dance so well, with such good grace and measure, and sing so sweetly, and withall descant it so finely and tunably, as though they had spent all their life time in some dancing and singing-school.

Nevertheless, *Cardan*, contrary to all authority and experience, calleth in doubt and question this point, and at last concludeth that they cannot be restored to health again by musick. Wherein he doth marvelously repugn and contrary, both *Fælix*, *Platerus*, *Theodorus*, *Zwingerus*, *Andreas*, *Matthiolus*, *Bellunenſis*, *Ponzettus*, *Paracelsus*, and many other famous learned men. Truly, a bare contradiction against so great authorities, is far unworthy and unbecoming a man any thing (though never so little) seen or exercised in Philosophy: much more so great a Philosopher and Physitian as *Cardan* was. Yet sure I am of the opinion, that *Cardan* did not erre in Philosophy through ignorance, but having a desire to appear more learned, he did ever bend himself to impugn that, which he knew the soundest and best part of men did hold and maintain. But this little which I have here spoken, shall serve sufficiently for the discussing of *Cardans* opinion.

And surely, if the harmonical sound and melody of warlike drums and trumpets, hath cured furious, mad, and enraged Horses, and mitigated the pain of their legs and hips, as *Aſclepiades* hath written, I see nothing to the contrary, but that it may help those persons that are wounded of any *Tarantula*. The Pope with his Poll-shorn generation, have mustered divers of the Saints together, and have assigned and appointed to each his sundry charge and several office apart, for the cure of sundry diseases. As for example, *S. Anthony* can heal the burning; *S. Roch* the Pestilence, notwithstanding that *S. Sebastian* hath some skill in it also. *Saint Cosmus* and *Damian* are good for all bites and swelling diseases. *S. Job* for the pocks. *S. Appolin* for the tooth-ach. *S. Petronella* can drive away all manner of Agues. And *S. Vitus* or *Vitulus* (we may well call him *S. Calf*) that in times past excelled in the musical Art, doth direct all Dancers, or such as will leap or vault: So that if this Saint be invocated and pacified with musical harmony and melodious sound of instruments, he will be an excellent Apothecary and Doctor for the curation of any that are wounded with a *Tarantula*. Superstitious people fondly imputing that to the Patron and Proctor sometimes of Musick, which ought rather to be attributed to Musick it self, and motion of the body.

Dioscorides concerning the common bitings of hurtful Spiders or *Phalangies*, writeth thus: The accidents (saith he) that do accompany the bitings of Spiders, are these that follow: The wounded place waxeth red, yet doth it not swell nor grow very hot, but it is somewhat moist. If the body become cold, there will follow trembling and shaking, the groin and hams do much strout out, and are exceeding distended; there is great provocation to make water, and striving to exonerate nature, they sweat with much difficulty, labour and pain. Besides, the hurt persons are all of a cold sweat, and tears distil from their eyes that they grow dim-sighted therewith. *Aetius* further addeth, that they can take no rest or sleep, sometimes they have erection of the yard, and the head itcheth, other whiles the eyes and calfs of the legs grow hollow and lank, the belly is stretched by out means of winde, the whole body is puffed up, but in especial the face, they make a maffeling with their mouth, and stammer, so that they cannot distinctly be understood.

Sometimes they can hardly void urine, they have great pain in the lower parts, the urine that they make is waterish, and as it were full of Spiders webs, the part affected hath a great pricking and swelling, which *Dioscorides* (as you read a little before) will by no means yeeld to, and it is a little red. Thus far *Aetius* from whom *Paulus Aegineta*, *Aliuarius*, *Ardoynus* and some others differ but a little. In *Zacynthus* an Isle in the *Ionian-Sea*, on the West of *Peloponnesus*, if any there be hurt of a *Phalangium*, they are otherwise and more grievously tormented then in any other place, for there the body groweth stiffe and benumbed; besides, it is very weak, trembling and exceeding cold. They suffer also vomiting with a spasm or cramp, and inflammation of the virge, besides an intolerable pain in the ears and soles of their feet. The people there do cure themselves by bathes, into which if any found man after that do enter to wash himself, or be drawn into the same by any guile or deceitful means, he will forth-with fall into the same griefs and passions, that the other sick patient endured before he received remedy. And the like to this writeth *Dioscorides*, in his Chapter of *Trifolium asphaltites*, in these words following.

The decoction (saith he) of the whole plant being used by way of fomentation, bathing or soking the body, ceaseth all those pains which are caused by the biting or stinging of any venomous Serpent: and with the same bathing or fomenting whatsoever ulcerous persons shall use or wash himself withall, he will be affected and have the same accidents, as he that hath been bitten of a Serpent.

Galen in his Book *De Theriaca ad Pisonem*, ascribeth this to miracle, accounting it a thing exceeding common reason and nature: but I stand in doubt that that Book was never *Galen's*, but rather fathered upon him by some other man. And yet *Aelianus* writeth more miraculously, when he affirmeth that this hapneth to some healthy persons, and such as be in good plight and state of body, never so much as making any mention of ulcer or sore. Thus much of the symptomes, accidents, passions or effects which stick and wait upon those that are hurt by Spiders. And now I come the cure.

The general cure, according to the opinion of *Dioscorides*, is, that first there must be scarification made upon the wounded place, and that often, and cupping glasses must be applyed and fastened with much flame to the part affected. *Absyrus* counsel is to make a fumigation with Eggeshells first steeped in water, and then being cast on the coals with Harts-horn or *Galbanum*, to perfume the venomd part therewith. After that to use Scarifications, to let blood, or to suck the place; or to draw out the venom with Cupping-glasses: or (which is the safest course of them all) to apply an actual Cautery, except the place affected be full of sinews. Lastly, to provoke sweat well, either in bed, covering the patient well with cloathes, or it is better by long and easie walking to procure sweating. In some to attain to the perfect curation, you must work both with inward and outward means, such as here shall be prescribed and set before your eyes: whereof the most choise and approved I have set down for the benefit of the Reader: and first I will begin with *Dioscorides*.

Inward Medicines out of *Dioscorides*.

Take of the seeds of Southern-wood, Anise, Dill, the wilde Cicer, of the fruit of the Cedar tree, Plantain and Trifoly, of each a like quantity; beat them to powder by themselves, before you do mix them: The dose is two drams to be taken in Wine. Likewise one dram of the seeds of Tamarisk drunk in Wine, is very effectual. Some use decoction of *Chamepitys*, and the green Nuts of the Cypress tree in Wine. There be some which praise the tree of Cray-fishes, to be taken with ashes, milk, and Smallage seed; and this medicine experience hath approved and confirmed, for the ceasing of all pains. Lye made of Fig-leaves is drunk with good successe against all bitings of Spiders.

It is good also to take the fruit of the Turpentine tree, Bay-berries, leaves of the balm, and the seeds of all sorts of Carrots: or to drink the juyce of Mirtle-berries, of the Berries of Ivy, or Mulberries, the juyce of Colewort leaves, and of Clives or Goose-grease with Wine or Vinegar. A dram of the leaves of Been-trifoly drunk in Wine, the decoction of a *Sparagus*, juyce of Sen-green, or any opening juyce is good for the same. Some use with very good successe, the leaves of the herb called Balm with Nitre, and Mallows, boyled both leaf and root, and so taken often in a potion. The leaves of the herb called *Phalangium*, with his flowers and seeds. The seeds of *Nigella* also serve to the same end.

Medicines out of Galen.

Take of *Aristolochia*, of *Opium*, of either alike much, four drams, of the roots of Pellitory of Spain three drams. Make thereof Trochiscs, to the quantity of a Bean. The dose is two Trochiscs, with three ounces of pure Wine. The ashes of a Rams hoof tempered with Honey, and drunk with Wine. Remedies of *Diophantes* against the bitings of *Phalangies*. Take of Astrologe or Hartwort four drams, of Pellitory of Spain as much, Pepper two drams, *Opium* one dram, make thereof Trochiscs to the quantity of a Bean, and take two of them in a good draught of pure Wine. Another more excellent: Take of the seeds of wilde Rue, Rocket-seed, Styra, *Sulphur vivum*, of either alike much six drams, of *Castoreum* two drams, commix them to make Trochiscs, as before, with the bloud of a Crevish. The Dose is one scruple and a half in Wine. Another: Take of Myrrhe, *Castoreum* and Styra, of either one dram, *Opium* two drams, of *Galbanum* three drams, Smallage-seeds and Anise-seeds, of either alike two ounces and a half, Pepper thirty grains; make them up with Wine so much as is sufficient. Another: Take of Myrrhe five ounces, of Spikenard six drams, of the flower of *Juncus rotundus* two drams and a half, *Cassia* four drams, Cinamon three drams, white Pepper one dram and a half, Frankincense one dram and half a scruple, *Coffus* one dram, make them up with Attick Honey: The dose is the quantity of a Hasel nut, to be taken either in Mulse or water.

Remedies out of Apollodorus.

Take of wilde Cummin two ounces and a half, the bloud of a Sea Tortoise four drams, the rennet of a Fawn or Hare three drams, the bloud of a Kid four drams; make them up with the best Wine, and reserve it to your use: The dose is the quantity of an Olive, in a draught of the best and purest Wine. Another: Take of the seeds of *Trifolium Bituminosum*, of round Astrologe, the seeds of wilde Rew, the seeds of *Ervum* dryed in the Sun, of each alike six drams; work them with Wine and make Trochiscs thereof, every one of them weighing four drams: The dose is one Trochisce. Read more in *Galen*, in his second Book *De Antid.* where any man may find many for the same purpose, which he had gathered and selected from divers Authors.

Out of Aetius, and Paulus Aegineta.

Take of *Sulphur Vivum*, and of *Galbanum*, of either four drams, of bitter Almonds excorticated one dram, of the Gum called Benzoin four drams, temper them in Wine, and after their maceration, work them up with some Honey to be taken inwardly. Being thus prepared, it may likewise be applied outwardly. Another: Take of *Ameos* two drams, roots of Flowrt-de-luce one dram, or else of Saint Johns-wort, or *Trifolium Bituminosum*, drink them out of Wine. Or take of Anise-seeds, wilde Carrets, Cummin, *Nigella Romana*, Pepper and Agarick, of either one dram, and drink them. Or take the leaves of the Cypress tree, or the Nuts beaten in Wine, and three quarters of a pinte of the best Oyl, and give it to drink.

And to this end they do prescribe Bay-berries, Scorpion-grasse, wilde Thyme, Calamint, Chame-pitys, either to be taken by themselves alone, or with Rew and Pepper. *Asclepiades* used these that follow: Take of the seeds of *Angelica* and Calamint, of either alike much, and powned together, to be taken in six ounces of Wine oftentimes in a day. Another: Take of Benzoin, the seeds of the wilde Carret, of dry Mints and Spikenard a little quantity, temper them up with Vinegar: The dose is one dram, with pure water and Vinegar mixed together about five or six ounces. Another more excellent: Take Garlick and eat it, and a bath made of the same with Wine, and likewise all those medicines which do heal the bitings of Vipers, are notable in these cases. *Paulus Aegineta* commendeth all these very highly, and so doth he the seeds of *Agnus Castus*, or the leaves of the white Popler.

Out of Nicander.

Take of the purest Turpentine that distilleth out of the Pine-tree, and eat or drink it: for this is a very effectual medicine, which, as *Bellonius* reporteth, he hath found to be true by experience.

Out of Avicenna.

The fruit of the Myrtle tree, *Doronicum*, Mastick, *Asa Fetida*, Dedder, With-winde and his root, the Nut of India, and white *Bdellium* drunk with Wine. Take of the roots of *Aristolochy*, roots of Floure-de-luce, of Spike, Pellitory of Spain, the seeds of wilde Carrot, black Hellebore, Cummin, the roots of the true Daffadil, of the fruit of the Carob-tree, the leaves of Dates, tops of Pomgranates, Cinamon, of the juyce of Rue, Cray-fishes, Styra, *Opium*, and *Carpobalsamum*, of either alike, one ounce, all these being powdered, make thereof Trochiscs the weight of one dram or four scruples, which is their dose: Take also in Wine the decoction of the

the seeds of *Trifolium Bituminosum*, Cypress-nuts, and the seeds of Smallage. Besides let him drink the grains or fruit of the Pine-tree, Cumin of *Æthiopia*, the leaves and rinde of the Palne-tree, the seeds of *Siler Montanum*, black and wilde Cicers, the seeds of Nigella, Southern-wood and Dill, Astrologe or Hartwort, the fruit of the Tamarisk-tree: for all these are very effectuell to cure the hurts that come by biting of any venomous Spider.

The juice also of wilde Lettice and House-leek is excellent. The decoction of Cypress-nuts being boyled, especially with Cynamon, the broth of Crai-fishes, and of Goose-flesh, and likewise the decoction of the roots of *Asparagus* in wine and water. Another. Take of Astrologe and Cumin of each three drams to be drunk in warm water: an excellent and approved Antidote. Take of the seeds of Git or Nigella ten drams, Cumin-seed, *Daucus*-seed (or wilde Carret) of either five drams, Spikenard, Bay-berries, round Aristolochie, *Carpobalsamum*, Cinamon, roots of Gentian, seeds of the Mountain, Siler, and Smallage, of every one alike two drams, make a Confection with Honey. The dose is the quantity of a Nut with old Wine. A confection of *Assa*. Take of *Assa fetida*, Myrrhe, and leaves of Rue, of every one alike quantity, temper them together with Honey. The common dose is one dram, or two at the most in Wine.

Certain other selected Medicines out of Absyrtus, Albucafis, Lullus, Rhazes and Ponzettus.

Take of white Pepper thirty grains, drink it often in a draught of old Wine. Give also the herb Thyme in Wine. *Absyrtus*. Let him drink after it a spoonfull of Wine distilled with Balm. *Lullus*. Take of drie Rue, of *Costus*, Horsemint, Pellitory of Spain, *Cardamomum*, of each alike, of *Assa fetida* a fourth part, Honey so much as is sufficient, commixe them. The dose is the quantity of a Hasel-nut in drink. *Albucafis*. The brain of a Hen drunk with a little Pepper out of sweet Wine or Vinegar and water mixed together.

A notable Treacle or Antidote against the bitings of *Phalangies* or venomous Spiders. Take of *Tartarum* six drams, of yellow Sulphur eight drams, Rue-seeds three drams, *Castoreum* and Rocket-seed, of either two drams, with the bloud of a Sea-tortoise, make an Opiate. The dose is two dramsto be taken in Wine. Another. Take of Pellitory of Spain, and the root of the round Aristolochie of each one part, of white Pepper half a part, Horehound four parts, temper them up with Honey, the dose that is to be given is one dram. Another. Take of the roots of Capers, the roots of long Aristolochie or Hartwort, Bay-berries, roots of Gentian, of each a like quantity to be taken in Wine, or let him drink *Diaffa* with sweet strong Wine, Cumin, and the seeds of *Agnus Castus*. Another. Take of the seeds of Nigella ten drams, of *Daucus* and Cumin-seeds, of each alike five drams, seeds of wilde Rue, and Cypress-nuts, of either three drams, Spikenard, Bay-berries, round Astrologe, *Carpobalsamum*, Cynamon, the root of Gentian, seeds of *Trifolium Bituminosum*, and of Smallage-seed, of either two drams, make a Confection with Honey so much as is sufficient. Give the quantity of a Nut with old Wine. *Rhazes*.

Out of Plny, Celsus, and Scaliger.

It is good to give five Pismires to them that are bitten of any *Phalangium*, or the seeds of *Nigella Romana* one dram, or Mulberries with Hypocistis and Honey. There is a secret vertue and hidden quality in the root of Parsley, and of wilde Rue, peculiarly against those hurts that Spiders infect by their venome. The bloud of a Land-tortoyse, the juice of *Origanum*, the root of *Beben Album*, *Vervain*, *Cinquesoil*, all the sorts of Sengreen, Cypress-roots, the Ivy, of Ivy-roots being taken with some sweet Wine, or water and Vinegar mixed and boyled together, are very Speciall in this grief. Likewise two drams of *Castoreum* to provoke vomiting being relented in some mulse. *Apollodorus* one of the Disciples of *Democritus*, saith, there is an herb called Crocides, which if any *Phalangium* or other poysonous Spider do but touch, presently they fall down dead, and their poyson is so dulled and weakned as it can do no hurt. The leaves of the Bul-rush or Mat-rush which are next to the root being eaten, are found to give much help. *Pliny*. Take of Myrrhe, of *Una Taminea*, which is the berry of the herb called *Ampelos Agria*, being a kinde of Bryony, which windeth it self about trees and hedges like a vine, of some called our Ladies seal, of either alike, and drink them in three quarters of a pinte of sod Wine. *Item*, the roots of Radish or of Darnell taken in Wine is very effectuell. *Celsus*. But the excellentest Antidote of all other is that which *Scaliger* describeth, whom for his singular learning and deep conceit, I may tearm *Nostri orbis et seculi ornamentum*: The form whereof in this place I will prescribe you. Take of the true and round Aristolochia, and of the best Mithridate, of either one ounce, *Terra Sigillata* half an ounce, of those Flies which are found to live in the flower of the herb called *Napellus*, in number eighteen, juice of Citrons so much as is sufficient, mixe them all together. For against this mischief of Spiders, or against any other shrewd turns, grievances, or bitings of any Serpents whatsoever Art, as yet never found out so effectuell a remedy, or so notable an Alexipharmacall. Thus far *Scaliger*. The juice of Apples being drunk, and Endive, are the proper Bezoar against the venom of a *Phalangie*. *Petrus de Albano*. Thus much of inward: Now will I proceed to generall outward medicaments and applications. Five Spiders putrefied in common Oyl, and applyed outwardly to the affected place, are very good. Ashes made of the dung of draught beafts tempered with Vinegar, and used as an oyntment, or instead of Vinegar, water and Vinegar boyled together, and applyed as before, are proved to be singu-

singular. Take of Vinegar three pintes and a half, *Sulphur vivum* two ounces, mixe them, and foment, bath, or soke the wounded part with a Sponge dipped in the liquor, or if the pain be a little asswaged with the fomentation, then wash the place with a good quantity of Sea-water.

Some hold opinion that Achates (which is a precious stone, wherein are represented divers forms, whereof some have the nine masts, some of *Venus*, &c. will heal all bitings of *Phalangies*, and for this cause being brought out of *India* it is held at a very deer rate in this Countrey. *Pliny*. Ashes made of fig-tree-leaves, adding to them some salt and wine. The roots of the wilde *Panax* being beaten to powder, *Aristolochie*, and Barley-meal kneaded together and wrought up with Vinegar. Water with Honey and salt applyed outwardly for a fomentation. The decoction of the hearb Balm, or the leaves of it being brought to the form of a Pultesse, and applyed: but we must not forget to use warm bathes, and sometimes to the place agrieved. *Pliny*. Cut the veins that appear under the tongue, rubbing and chafing the swelled places with salt and good store of Vinegar: then cause the patient to sweat carefully and warily for fear of cold. *Vigetus*. *Theophrastus* saith, that practitioners do highly commend the root of *Panax Chironia*. Moysten the wound with Oyl, Garlick bruised, Knot-grasse or Barley-meal, and Bay-leaves with Wine, or with the dregs or Lees of wine, or wilde Rue applyed in manner of a Cataplasme to the wounded place. *Nonnus*. Take of *Sulphur Vivum*, *Galbanum*, of each alike, four drams and a half, of *Euforbium* half a dram, Hesel-nuts excorticated two drams, dissolve them, and with wine make towards the curation. Flies beaten to powder and applyed upon the place affected. The fish called a Barble cureth the bitings of any venomous Spider, if being raw it be slit asunder in the middest, and so applyed (as *Galen* saith) Anoynt the whole body with a liquid Cerote, and foment the place affected with Oyl wherein *Trifolium Bituminosum* hath been infused, or bathe it often with Sponges soked in warm Vinegar: then prepare and make ready Cataplasmes of these Ingredients following; that is, of Knot-grasse, *Scala Celi*, called *Salomons* seal, Leeks, Cheesill or Bran decocted in Vinegar, Barley-meal and Bay-berries, and the leaves boyled in Wine and Honey. Some do also make Cataplasmes of Rue or herb-grace, and Goats-dung tempered with Wine, Cypresse, Marjoram and wilde Rue with Vinegar. An emplaster of *Asclepiades*. Take of the seeds of wilde Rue, and Rocket-seeds, Stavesakre, Rosemary seeds, *Agnus Castus*, Apples and Nuts, or instead of these two, of the leaves of the Cypresse-tree, of each alike, beat and temper them all together with Vinegar and Honey. *Aetius*. Apply the decoction of Lupines upon the affected place, the eschar being first removed, then anoynt it in the warm Sun-shine, or against the fire with the fat of a Goose tempered with wilde Rue and Oyl, or else of the pap of Barley, and the broth of Lupines make a Cataplasme. *Oribasius*. The Filberd-nut that groweth in *India*, healeth the biting of these *Phalangies*. *Avicenna*. Goats dung dissolved with other convenient Cataplasmes, and Oyl of Worm-wood, and the juice of Figs helpeth much. *Kiranides*. Apply oftentimes a cold piece of iron to the place. *Petrus de Albano*. Foment the place very often with the juice of the herb Plantane. *Hildegardis*.

The artificiall Oyl of Balm is singular. *Eunymus*. A fomentation made of the leaves and stalks of *Imperatoria* called Masterwort, and continued a good space: or else *Vervain* bruised and stamped, the juice being taken in wine, and further, the herb outwardly applyed, is much commended of *Turneiser*. Beat and stamp herb grace with Garlick and some Oyl, and apply it outwardly. *Celsus*. There be but a few particular cures for the bitings of Spiders that Physitians mention; yet some they doe, although the generall be most effectuell. *Pliny* against the biting of the *Formicarian* or Pismire-lik *Phalangie*, that hath a red head, commendeth much another *Phalangie* of the same kinde, only to be shewed to the wounded patient to look upon, and to be kept for the same purpose, though the Spider be found dead. Also a young Weasel dryed, and the belly thereof stuffed with Coriander-seed, and so kept till it be very old and stale, and drunk in Wine, being first beaten to powder, is likewise good for the same intention.

There is a certain little beast called *Ichneumon*, of some it is called *Mus Pharaonis*, *Pharoes* Mouse, and for the enmity unto Serpents, it is called *Ophiomachus*, (as *Bellonius* reporteth) being bruised and applyed to the biting of any Wasp-like *Phalangie*, doth utterly take away the venome of them. It often entreth and searcheth out the seats and holes of venomous Spiders and *Phalangies*, and if it finde any of them, she haleth and tuggeth them clean away as a Pismire doth a small grain of Corn: and if the *Phalangie* offer any resistance, the *Ichneumon* sparing no labour, pulleth her the contrary way: and by this strugling and striving, sometimes it so falleth out that the *Ichneumon* is wearied, and then she breatheth a little, and gathering new strength and courage, setteth again upon the *Phalangie* with a fresh assault, and woundeth her many times, so that at length she carrieth her to her own lodging there to be devoured.

If the *Tarantula* have hurt any one, the best remedy is to stirre and exercise the body continually without any intermission, whereas in all hurts that are caused by any other Spiders, rest and quietnesse are the best means (as *Celsus* affirmeth.) But their Antidote is musick and singing.

Christophorus de honestis counselleth to take forthwith *Theriaca Andromachi* without any delay. He also adviseth to take Butter tempered with Honey, and the root of Saffron in Wine. His proper Bezoar (saith he) or the green berries or seeds of the Lentisk-tree. *Ponzettus* in his book *De venenis*, adviseth to take ten grains of the Lentisk-tree in Milk, or an ounce and a half of the juice of Mullberry-leaves.

In the increase of the grief, he cureth them with Agarick, or the white Vine: and after much sweating, they are to be comforted and refreshed or strengthened with cold Medicines, as with the water

water of Popy, and the like (*Merula* saith) they are to be remedied with the stone of Muscicall Instruments, dancing, singing and colours: concerning the three former I will not contend, but how they should receive any part of help or health from viewing of any colours I do not well understand; considering that the eye-sight of all those that are bitten of a *Tarantula*, is quite taken away, or they see but obscurely, as being mightily deceived in their objects.

Andreas Matthiolus in his Commentaries, upon the sixth book of *Dioscorides*, Chap. 40. reporteth a very strange story of a certain Hermit, his old friend and acquaintance dwelling neer unto *Rome*, who cured all those who were bitten or hurt of any venomous Worms or Serpents, which in this last place I will insert (although some may say that it is needlesse, and belongeth not at all to this discourse in hand, or else will not beleve it.) For when as any of the inhabitants in those parts were wounded of any poysonous Serpent, by a Messenger forthwith signified the same to the old Hermit; who by and by demanded of the Messenger, whether he could be content to take or drink any Medicine instead of the sick patient; which if the other assented to, promising to take it, the Hermit commanded him without any further delay, to pull off his right foot shooe, and to set his foot on the earth, drawing a line round about the foot with his knife: then he willed him to take away his foot, and within the space of the line so marked, he writ or engraved these words following *Cave Caruze, sanum reduce, reputata sanum, Emanuel paracletus*. Then immediately he pared away the earth with the same whittle, so that all the Characters were quite defaced, putting the same earth into a little earthen vessell full of water, letting it there so long remain, untill the earth sunk to the bottom: Lastly, he strained the water with a piece of the Messengers shirt, or some other linnen that he wore next to his skin, and being signed with the sign of the Crosse, gave it him to drink: But surely (*saith Matthiolus*) it was marvellous strange, and a wonderfull thing to consider, how that the wounded patient was perfectly healed, even at that very hour and moment of time, that the Messenger took the aforesaid potion of the Hermit, as it is plainly known unto my self, and to all the people that dwell round about in that Territory or Shire. And thus much of this Heremiticall curation by the way.

Now will I come into my path again. A man may finde a great sort both of these, and the like remedies both in *Pliny*, *Dioscorides*, and other, concerning the hurts of Spiders, but I think I have been a little too tedious, and you may imagine that I do nothing but *Ta. arachina hyphainein, Araneorum telas texere*: That is, in a frivolous matter and of small moment spend infinite and curious labour; so that I had more need to crave pardon for my long discourse about this subject, wherein though many things may want to the satisfaction of an afflicted and searching head, yet I am sure here is enough to warrant the discharge of my good will, and to repell the censure of the scrupulous;

Nunc imus ad illam

Artificem, mens nostra cui est conformis, Arachnem,
Quae medio tenera residens in stamine tela

In English thus;

Unto Arachne skilfull Mistresse let us come,
To whom conformed seems the minde of man,
She sits in midst of web, her tender feet upon:

Qua ferit eurus atrox, trepidat volitantibus auris
Tangitur, utque sono vagus illi byssus ab aëstro.

Whiles she is tost with East-winde now and then,
She trembleth at the noyse of rattling winds,
As when the humming Flie hard wagging finds.

Of the Tame or House SPIDER.

Aristotle, that diligent searcher and seeker out of Nature and naturall causes, termeth this kinde of Spider a very gallant and excellent wise creature. King *Salomon* himself, at whose high wisdom all succeeding ages have and will admire, amongst those four small Creatures, which in wisdom do out-strip the greatest Philosophers, reckoneth the Spider for one, dwelling (as he saith) in Kings Courts, and there devising and weaving his inimitable web. The Poets faine that the Spider called *Arachne*, was in times past a Mayden of *Lydia*, who being instructed of *Minerva* in the cunning skill of Embroidery and spinning, grew therein so excellent, and took such a pride in the same, (for you must remember she was a woman) that she stiffly denyed, facing it out in braving wise, that *Minerva* was never her Instructor, and so arrogant presumptuous she was, as that she feared not to challenge her Mistresse Goddesse to work with her, if she durst for her ears enter the list, in all manner of Embroidery, Tapestry-works, and the like.

At which, Mistresse *Minerva* being netled, and taking the matter in dudgeon, thus to be provoked, and withall reprehending the mayd very sharply for her sawcinesse, in a pelting chafe she brake to pieces the wenchs imagery work, that was so curiously woven, and so full of variety, with her shuttle. The Mayd hereat being sore grieved, half in despair, not knowing what to doe, yeelding to passion, would needs hang her self. But *Minerva* taking compassion upon her, would not have her die forth with, but transformed her into a Spider, hanging by a fine small thred or line,

Atque ita vive quidem, pende tamen, improba, dixit,
Lexque eadem pæne, ne sis secuta futuri,
Dicta tuo generi, serisque nepotibus esto.

In English thus;

So live indeed, yet hang, thou woman vile,
She said, and let the self same law of punishment
Be unto thee and all thy offspring, while
All kindred last: shall not futures thee content.

If any be desirous to know more of this fable, let him read the famous Poet *Ovid*, who hath excellently written thereof in the sixth book of his *Metamorphosis*, although somewhat differing from this of *Pliny*. The *Grecians* besides do write, as *Cælius Rodoginus*, in his 7. book *Lectionum Antiq.* Chap. 16. affirmeth, how that there was in the Countrey of *Attica* a certain man called *Phalanx*, who had also a Sister named *Arachne*, and when *Phalanx* had perfectly learned of *Minerva* the Military Science, and all other warlike exercises and offices that belong to a Souldier, and that she had likewise instructed his Sister *Arachne* in weaving, spinning, and needle-work, they concluded a match between themselves, but the Goddesse being much displeased with such a shamefull and incestuous marriage, marring their fashion, she disfigured them both into the number of creeping Creatures, laying this as a just punishment upon them, to be destroyed of their own young ones.

But it is at every mans choice to interpret these to be either fables and *Canterbury* tales, or true historicall narrations: yet most are of this minde, that *Arachne* first invented spinning of linnen, weaving and working with the needle, which this mayd of *Lydia* first learned from the Spiders, taking her first Samplers and patterns from them for imitation; which no man ought to think to be strange, sith the craft of playstering or working things in earth, and the Art of curing the eyes, was first taken from the Swallows. The Eagles have taught us Architecture, and men first received the light of Phlebotomie or letting of blood from the *Hippopotamus*, which is a beast living in the River of *Nilus*, having feet like an Oxe, and his back and mane like a Horse, with a winding tayl, and tusked like a Boar. The bird of *Egypt* called *Ibis*, first gave knowledge to Physitians how to use the Glyster; yea, Dogs, Goats, Harts, Storks, Swallows and Weasels, have taught men many medicines for many diseases.

To begin therefore to make an enumeration of their prayes, I will declare unto you, the rich vertues and externall goods of the body, fortune and minde. And first to begin with the good gifts of their bodies. If you will weigh and consider the matter and substance of a Spiders body, you shall finde it to be light, partaking much of fire and ayr, (being two of the most noble and effectuall elements in operation) and having but little earthy dragginesse and drossy refuse. If you behold their figure, they have either a Sphæricall and heavenly, or at least wise an Ovall form, which is next to the Sphæricall, as being the perfectest of all other. Besides, their substance is thin, fine, glistering, and subtile, yea, although they seem now and then to be fatted up with plenty of meat, that they grow as big in bulk as a Walnut, and if the learned *Cardan* may be credited, they grow otherwhiles as great as a Sparrow: yet for all that, if you cast your eye on them against the light, hanging in their web, she glittereth and shineth on all parts like unto the Chrysolite, which is a kinde of precious stone, shining with a golden colour quite thorow, causing a pleasant reflexion to the eyes, and piercing them with singular delight.

The colour of a Spider is somewhat pale, such as *Ovid* ascribeth to Lovers, and when she hangeth aloft in her web, with her legs wide and large spread abroad, she perfectly and lively expresseth the shape and proportion of a painted Starre: as if nature had intended to give and bestow on her, not onely the resemblance and counterfeit similitude of heaven, but also the very lustre of the Starres themselves. The skin of a Spider is so soft, smooth, exquisite, pure, clean, and neat, that it farre surpasseth by many degrees, the polished skins of those maids that have the Green-sicknesse, or those young whores that are so carefull in sparing no cost to preserve their beauties: and it is of such cleernesse and perspicuity, that it will easily represent the visage and physiognomy of any beholder of it, much like unto a fine glasse. Further, it hath fingers, for all the world such as fair Virgins desire to have, that is to say, long, round, and slender, being also endued with the most exquisite sense of touching that possibly can be imagined, insomuch that it farre surmounteth any mortall man living, and all other creatures in the world besides, according to that old and common Verse;

*Nos aper auditu præcellit, Aranea tactu,
Vultur odoratu, Lynx visu, Simia gustu.*

Which may be Englished thus;

To hear, the Boar, to touch, the Spider us excels,
The Lynx to see, the Ape to taste, the Vulture for the smells.

It hath also feet, but yet not such a multitude as *Scolopendraes* have, nor yet none at all, as the meanest rank and sort of Creatures, nor yet six only, as the common sort of Insects: but it hath eight, a number which the meanest Sophister in *Cambridge* can resolve, is next to the perfectest of all numbers, and these feet consisting of a sesquitertiall proportion, which of all Mathematicians is esteemed to be wonderfull and admirable, so that although the hinder be shorter then the fore-legs, yet notwithstanding they retain a mutuall harmony, equality, and semblable concordance. Many Philosophers have not dared to affirm that they are blinde, but they themselves in this poynt are most

most blinde. For if they be deprived of their eyes and eye-sight, I would faine be resolved how they could make choice of such apt and convenient places for their hunting trade, and with what guide, Captain, or Director, they do knit, fasten and tye one thred to another, in such admirable order, rank and range, as the excellentest work-men in the world stand amazed at. Or else how they can come to the knowledge when their webs are broken by chance, or have the skill to amend them, being either shaken or burst in sunder. Besides, we may all observe by our own experience, that if one take a flie, and hold her at the side of the web, the familiar, tame, or domesticall Spider espying her, will make all the haste she can through thick and thin, yea though she be farre off, and will boldly assaile and devour her, and will (as a man may say) take her out of your hands into her own, which thing I have often seen done. Surely therefore those persons are half blinde, who neither can conceive nor see, that Spiders can see.

Now in that a Spider seemeth to some to be an ugly and loathsome Creature, and even at the first sight to be detested, in regard it is so mishapen, I will not impute this to any defect or default that is in their form or proportion, but I rather ascribe it to their exceeding great Melancholy (for this humour is most predominant in them) and to their strange lusting or longing, by reason of naughty humours gathered about the mouth of the stomach, yea, and to their lack of stay and moderation in their lusts and affections. For they are no lesse beholding to Nature for their elegancy, handsome and proper feature, then the Butter-fly, or any other Cut-waste whatsoever. To conclude this poynt, GOD hath given and bestowed upon this strange and admirable body, as strange and admirable a disposition, nature, and constitution of the skin. For a Spider changeth her skin, not once only in a years space, (as Vipers do) but once in the space of a moneth she reneweth it, (if she be well fed, and not hunger-starved) and putteth on a new hue and skin, and the same in all poynts more fresh, exquisite and neat, then the old skin which she cast off.

Amongst the blessings of Fortune, or rather Fate, I esteeme this to be the excellentest that is conferred upon them, in that they bear about with them an inexhausted matter or substance in their bellies, to make infinite webs, yea, such a matter as can never be consumed, wasted or spent, of which they have such foyson, as they are able to draw out in length and breadth, and to spin and devise innumerable threds and stufte to make and finish their Cob-webs of, so that it a hundred flies light in them, they are of force sufficient so to entangle and ensnare them all, as they shall never get out again. Furthermore, although they have neither food nor sustenance laid up in Barns or Store-houses, as Pismires have, nor yet any meat set or sowed for them as Bees have, but get their commons only by taking of booties casually, by hunting at all adventures, and by chanceable preys, yet do they satisfie nature, and expell hunger, by means of that hazardous and suddain spoyl; and sometimes you shall see them grown very thick, fat, and unwieldy, by reason of these good dishes, and fat messes of meat which they can purchase by their own good wary husbandry, or by any means can lay hold on, and catch into their clawes.

Besides, I must tell you that Spiders have not the least benefit of Fortunes favour bestowed upon them, when as being ingluttred with Courtly Viands, they have been glad to exchange lodgings with an old Courtier called *Podagra*, or the Gout, for it skilleth not whether of these two names you will chuse. For you have heard before, the wise King *Solomon* to have given them the most prime and chiefest places in Princes Courts, that she might be an absolute pattern and president of wit, wisdom, moderate frugality and vertue, and in divers poynts of regiment they might be our directors for imitation. Further, beginning their Cob-webs, they have wholly bent and applied themselves to their most ingenious weaving trade, they have given themselves to curious and superstitious hunting, to captious taking at advantage, watching and espying their prey, nothing at all fearing any ambushes, treacheries, traps or treasons, and no whit dreading any assaults, much lesse triumphs: and to speak briefly, the wisest creature of the wisest King, beareth a great stroke, domineereth, and hath (I may say) the sole sovereignty in the most noble, greatest, and stateliest Courts of Princes.

And yet for all these vertues, (since *Salomons* time) there have risen up and followed some Princes and Governours, unadvised, desperately naught, and unthrifty, and such as were not well in their wits, and of those it cannot easily be spoken how churlishly they entertained her, how they sent out their proclamations and warrants, to expell the Spider, to cast her down to the earth, tread under foot, undoe and kill, as a night-thief, with beesoms, brooms, brushes and long poles, so that by and by in a trice there flocked certain Furies of hell, (for so I think I may justly term them) rubbing, brushing, spunging, making clean fluts-corners, beating and sweeping together, and whatsoever they found curiously wrought, all that either they swept clean away, or tore all to pieces, so that hardly they could escape the busie beesomes of these quick-sighted and lewd naughty packs.

Surely, miserable was her condition and estate, which in all that abundance of wealth, she only being indigent and bare, detesting idlenesse withall, might not yet be admitted tenant for some short term of time, in some small odde corner, in such large and spacious buildings, nor yet finde one hole to live at peace in. Again, the great men, the rich misers and penny-fathers, following the example of their Princes and Governours, they in like sort sent packing out of their doors, the School-mistresse of all labour, diligence and vertue, and will not permit a web, the very pattern, index, and anathema of supernaturall wisdom to remain untouched.

This same Spider which now we treat of, in times past, (it was when Dogs and Cats could speak, for now because there are so many languages in the world, they turn all to plain barking) took a long journey into a strange Countrey, and by good hap fell into company with my Lady *Podagra*, although (being none of the best footers) she could hardly keep way with the Spider, but lagged still behinde, and having now spent one whole day in travell, the night approaching that they should take up their Inne to lodge in, they resolved betwixt them two to betake themselves to sundry houses; so the Spider entring the Town, took up her lodging in the house of a certain wealthy Citizen, (I suppose it was neer the sign of the three Tunnes in *Tower-hill-street*) where when according to her usuall manner, hating lewd idlenesse, she began to buckle her self to her wonted task, in weaving her fine Tapestry, and other wrought work, being suddenly espyed of a company of corner-creepers, Spider-catchers, fault-finders, and quarrell-pickers, they presently begin to expostulate the matter with her, and not staying to hear any reason for her just defence, they made no more adoe but gave her Jack-drummes entertainment, thrusting her out of doors by the head and shoulders, to seek her lodging where she could finde it; so that she lay abroad without doors a whole Winters-night in the rain and cold: and all this happened about Saint *Nicholas* time, when dayes are at the shortest.

Now in the mean space *Podagra* having none of the best feet, but indeed being somewhat lame, when she could travail no further, she by chance light into a poor Cottage or cabbin of turfs, builded with Elder-poles at the Towns end, and yet in this poor shed she could hardly be received, but yet at length, through her incessant solicitation being admitted, she sate down to rest her weary bones, so at length, supper being prepared, the tender-hearted Lady found course fare, and commons farre shorter and more homely, then ever *Lipsius* found in *Westphalia*: she indured all the miseries in the World, that pity it was to see. There was no infelicity, no distresse, misfortune and adversfity to be compared unto hers, for there was nothing but a little brown Barley-bread set on the board to sup withall, which this nice piece so much misliked and abhorred, as that at the very sight thereof she was ready to disgorge her queasie stomach, then was there brought some Cock-crown keal, having no good relish, for they were not seasoned with salt, so that they were in taste very untoothsome, and when they should drink, they fetcht a little cold water out of a pit or pond, neer adjoyning to the house, in a wooden dish, whereof if Mistrresse *Podagra* had fetched but one sound carouse, it would have made her run through an Alphabet of faces: but there was no remedy, hunger breaketh stone-walls, and hard need makes the old wife trot, she must either quench her thirst with that or fast.

Having thus thinly supped, she called for her Chamber, where they shewed her to climbe up a Ladder, (you would have taken it to have been the fleas Ladder) and behinde a corner there was provided a bed stuffed with good Wheat-chaffe in stead of Down, to harden her hide, and under her head a hard Oken-logge, with the Winnow-cloth, and the one end of an old Hop-bag, cast over in stead of a Coverlet, (for the poor man and his wife, thought that none but the Lord of the Town, and women in childe-bed used Pillowes.) But *Podagra* not knowing how to mend the matter, groaned and made a lamentable noyse, and fetching a thousand sighes she couched her self down. But alas what ill rest the poor heart took that night, and how ill her soft and tender limbs agreed with such cold cheer and entertainment, I referre my self to your secret thought. So soon therefore as the day began to break, she started up, and the Spider and she met together again at the appointed time and place: and first of all the Spider began much to complain of the incivility of the rich Chuffe his host the Citizen. *Podagra* contrary-wise found as much or more fault with the short and sharp commons, this diet, miserable poverty, and indigency of his poor, bare and lean host, shewing her black and blew marks and prints, into whose tender skin the boards and planks had made a deep impressiion. For which cause, being both much discontented, after the matter was thoroughly debated betwixt them two, they determined and resolved within themselves, that the night following they would change Hostes and Innes, that is, that the Spider should enter into some poor Cottages, or houses of poor men, and *Podagra* should bend her course unto Noble and great mens houses, to Kings Courts, and Princely Palaces, to see what good was to be done there. So *Podagra* not being unmindfull of her word, went with a fine and Snail-like pace to the house of a certain fat, rich, and well monied man, and quietly laid herself down at the feet of this corsie Sire: which as soon as the gentle Host cast an eye upon, it is strange to tell with what mildeness, with what allurements and gentle intreaty, with what promptitude and alacrity she was welcomed; they prepared soft pallats of Down for her to lye upon, the Bedstedes and the Settles whereon she should rest, were covered with Pillowes, soft Cushions, and Carpets of *Persia*, the Kitchen smokes, and all things are in a readinesse to give her a most friendly wellcome. According to the words of the Poet, where he saith;

Jam dapibus mensas onerant et pocula ponunt.

In English thus;

Spread are the tables, and laded with store

Of delicates, the Cups filled, could receive no more.

Briefly, he was in all points for person and provision such a one as *Chaucer* in his works describeth his *Franklin* to be:

White

White was his beard as the Daisie,
 And of complexion he was sanguine,
 Well loved he by the morrow a sop in wine:
 To live in delight was ever his won,
 For he was Epicures own son,
 That held opinion that plain delight,
 Was very felicity partite.
 An householder and that a great was he,
 Saint Julian he was in his Countree,
 His bread, his ale, was alway after one,
 A better viended man was never none,
 Without bake-meat was never his house,

Of fish and fesh, and that so plenteouse,
 It snewed in his house of meat and drink,
 Of all dainties that men could think,
 After the sundry seasons of the yeer,
 So changed he his meat and his suppere.
 Full many a fat Patrick had he in mue,
 And many a Bream, and many a Luce in stue,
 Woe was his Cooke, but his sawce ever were
 Poynant and sharp, and ready all his gere.
 His table dormaunt in his Hall alway,
 Stood ready covered all the long day.

Nay, hither they brought fat and crammed Capons, Pheasants, Quails, Turtle-doves, Larks, and Nightingals. I passe over Turbot or Byrrt, Gilt-heads, Sturgion, Salmonds, Soals, and the like, for they were not unfurnished of all these, and of other store of shell-fish, as Lobsters, Crevishes, Oysters, and whatsoever the Sea yeelded that might by love or money be purchased: for I will not speak of a great number of River-fish and Fouls that are to be had about Peterborow, Wittlessey-mare, and those Fennish Countreys, for thither he sent his people to purvey for him all that was rare and dainty. Here was Red-wine, White, Claret, Muscadell, Rhenish, sweet-wines, harsh-wines, wine of Falernum, of the Islands of Creta, Chio, Madera, and those that are called Baleares, lying neer unto the Coast of Spain.

To speak nothing of their rear-suppers, their fine Marchpanes, and curious Confections, made with sundry devises, and exquisite skill of the Apothecary. And to conclude, there was no wanton fare unsought for, no delicate Juncate, no curious trimming and pickednesse that might gratifie, no fair words, and pleasant enticements fit to draw and allure, nor no delectation whatsoever omitted, that might seem to please this great Lady Podagra, (for you must understand she was none of the courtiest sort of Ladies, whereof there be many now adaies, for all men know she was a Gentlewoman born, both by the fathers and mothers side, as being the daughter of Bacchus and Venus,) and all this, I say, was done to please both her and her two sweet Sisters, Gbiragra and Congra, a pox take them all three, and so I will let them go, and come to the Spider, who likewise being directed by some favourable Planet, boldly and luckily trudged to the poor mans house.

— Atque ibi miro

Dogmate, quidve marem deceat, deceatque maritam

Addocet, atque suo sese sudore saginat.

Which may be Englished thus;

And there by strange instructions and documents,

She teacheth male and female how to live,

That is, both man and wife how to increase their rents,

Whilst she, on her own sweat and fat doth thrive.

But some man may here object and say, I see here no such great blessings of Lady Fortune, more then besides a bare commendation, and good hap in this their exchange of lodging and lodgers. Yes surely, very much, not only because she spendeth her dayes more freely and safely from danger, but also because as out of a high watch-tower, she no longer beholdeth in the houses of poor persons, lavish and needlesse prodigality, banquettings, quaffings, rioting, playes, dancing, dicing, and whoring, and a thousand vanities and villanies besides, whereof she knew her self conscious, and a privy witness unto, whilst she lived in the Halls and Bowers of the rich and wealthier sort; who when they had thrust clean from house and home, and for ever banished the Spider, (the true School-mistresse of industry and frugality) straightwayes the lazie Gowt called Podagra, arrested them. Had it not been better for them (think you) to have granted a dwelling place to a saving, wise, prudent, and harmlesse little creature, then to have given entertainment to such a base, blockish companion and guest as the Gowt is? Let not therefore, rich, covetous men wonder, if many times they be tormented with this sore grief, sith they will neither admit true Physitian nor physick, I mean, travail, diligence, industry, moderation, and pains-taking, with the like.

Now to touch the rich and rare gifts and graces of the minde, and other noble qualities and dispositions of Spiders, I know not whether I should first begin with the commendation of their prudence, justice, fortitude, temperance, their Philanthropia, Philoponia, Autarkeia, their humanity and love towards men, their studious industry and love of labour, their contentation as having sufficient, and coveting no more then is allotted unto them. Their wittinesse, policy, quickness and sharpnesse of sense, their cleanly neatnesse, with many other vertues, or else her admirable cunning and skilfulnesse in their weaving trade. Their prudence, sagacity, and wittinesse to conjecture things future, appeareth in this one thing, that when great abundance of rain, floods, swelling and overflowings of Rivers, are like shortly to come to passe, and thereby to threaten houses, they then begin to build their Webs higher by a great deal, then their usuall custome heretofore hath been. And this is another proof of the same, in that they weave not at all in a clear Sun-shine-day,

day, or when it is fair and calm weather, when Flies are most busie in flying about to and fro, that they may be the better at leasure to give themselves to hunting and watching after them, to take advantage, and if any chance to light into their nets, forthwith to seize upon them for their repast.

Again, when houses are ready to drop down, they with their Cobwebs first of all fall, and get them away packing, alter their climate to some other surer place and dwelling to rest in. If any thing touch her body that is hard or painfull, she immediately draweth up her legs round on a heap, for this end as I think, to feel the lesse pain, and the better to provide for the health and safety of her head, the director and governor of the whole body: for if any other part be hurt, she can easily cure it. Who hath manifested and made known this unto them? Hath any *Chaldean* Stargazer, or figure-flinger, by the sight and position of the starres shewed it unto them? No certainly. But a divine prudence and forefeeling knowledge, originally inbred by Nature, to eschew that which is hurtfull, which is diffused into the Spider, and as that famous Poet *Virgilius* hath excellently described,

*Spiritus intus alit, totosque infusa per artus
Mens agitat molem.*
In English thus:
*Minde bred within, infused in all limbs,
Minde moves the bodies lump, and skins.*

Furthermore, so soon as they espy their enemy to be caught in their nets, they do not first of all bite and prick him to death in any hostile manner, but they seem with their feet gently and softly to stroke him, yea even to intreat and allure him with tickling, and as it were clipping and colling, untill they have thoroughly insnarled him within their clammy and viscous gins, and being at length wearied, turmoiled, and tired with struggling and striving in vain, the silly Flie is made unable either to get away, stir, or resist. So having made sure work with one, she hyeth her to the center of her Web, observing and prying whether any new prey will come to hand again: so by this policy you shall see sometimes ten, yea otherwhiles twenty Flies hanging aloft by their strings and fine-spun threds.

They only feed on the juice of Flies, and the dry Carcase without any moysture, they cast away as unprofitable stufte to be used about any businesse. Moreover, because the Female Spider is sometimes greater then the Male, therefore she chuseth her standing in the lower part of the Web, that the poor Flies may seem carelesse of her, yet is she very observant, taking great heed to them: for they seeing her hanging below, thinking themselves safe, do fly up into the upper part of the net, but by this means seeking to shun *Charybdis*, they fall into *Scilla*, out of the smoke into the fire: for though in regard of her bodies magnitude, she be unwieldy, and very unfit to bestir her self in this hunting office: yet the crafty Male Spider playing Bo-peep, and pretending some other businesse, though minding another, playing the dissembling Hypocrite, hideth himself in the top of the Web, noting well all occurrents, and being seen of no body, there he lurketh till some fish (as we say) come to his net, and having espyed his prey, being more light, quick, and lively, it is a wonder to see how diligent, vigilant, and earnestly bent he is to bend his course with all expedition toward this new offered booty; for there he will not suffer it very long to remain, but descending in a trice, *Euro velocius*, as quick as a Bee from the upper to the lower part (as I have said) of the Cobweb, he maketh a very quick dispatch, and having royally feasted himself, he reserveth and layeth up all his other enemies in one place, hanging them all by one of his own threds till some convenient time to feast himself again withall. Then again when as by reason of long continuance and length of time, the Webs have lost their binding viscosity, and tenacious substance, either the Spider unweaveth them again, or else confirmeth and new strengthneth them afresh as it were, with another new glutinosity, or fast-binding clamminesse. This their work being finished, they either contain themselves in the center of it, or keeping sentinell and warding in the upper part, they hold as it were in their hands a thred drawn from the middest or center, by which they have easie access and recess to and fro to their beguiling nets; and withall this thred serveth to another profitable use, for if any prey be intangled, by the light moving and stirring of it, they presently feel and perceive it. But yet to make sure work, lest she should winde down in vain, or take bootlesse labour about nothing, she draweth back the thred a little now and then, and by the motion and poize of it, she putteth all out of doubt, being fully ascertained of the truth.

Then first, with all celerity possible she hies her to the Center, which thing the silly Flies being fast, and having some sense and feeling (as it should seem) that they are taken tardy, and for deeming some hurt, are as quiet as a Mouse in a trap, making no noyse at all, lest either they might betray or betray themselves, and so be further enfolden in danger. But alas in vain doth he avoyd warre, that cannot enjoy peace, and bootlesse doth he shun pain, that hath no means to feel rest: for this availeth but little, for they are not able with all these fetches to deceive their sharp inquirers, for both with eyes and feet, they finely and quickly run unto them, making a clean riddance and quick dispatch of them every one.

But yet it is more to consider what great justice and equity is observed to be in Spiders: For there is not one of them so ill bent, so malapertly sawcy, and impudently shamelesse, that can be seen to lay

lay claim unto, or to take away anothers wife or mate: there is none that intermedleth with anothers substance, businesse, or weaving; every one liveth contented by the sweat of his own browes, by their own proper goods and industrious pains-taking procured by their own bodily labour: so that not one of them dare enter his Neighbours freehold, but it is accounted a hainous matter, and very unlawfull, not one dare be so knock-hardy as to break into their friends and fellowes fence and enclosure, but it is even detested as a wicked and cursed deed.

*Non ita mortales, quos (proh dolor) urget habendi
Tantus amor, domibus domus, arvis additur arvum,
Monticulus monti, maribus mare, sique potessint
Addiderint mundum mundo, suaque omnia dixint.*

In English thus;

*Then would not mortall men so farre engag'd in love to have
(A death it is to think) house to house, and land to land to lay,
Hillock to hill, sea unto sea, to adde they crave,
And if they could, world unto world, and all their own would say.*

Again, they spread not their gins and nets to entrap and deceive good Creatures, and such as serve for mans use and benefit, but for Wasps, Horse-flies, or Gad-bees, and Brimsees, or Oxe-flies, that in Summer-time vexe Cattle, for Drones Gnats, and other Flies, which to us are like to Theeves, Parasites, Bawds, Panders, and such Merchants that bring whores and knaves together, being *Telluris inutile pondus*, an unprofitable burthen of the earth, serving to no good use. And besides, being a vermin of singular and incomparable courage, she dare adventure to give the onset upon those young Serpents that are called *Lizzards*, who if they offer to contend and strive against her fury, she quickly enclaspeth them round about, and very nimbly and eagerly seizeth upon both their lips, biting and holding them together so fast, that she never giveth over till they be dead: and at length having vanquished her enemies, she like another *Caem* carrieth them into her Cave, or some secret corner.

Now if it happen in this hot bickering, that the nets be either broken, intangled, or platted together, by and by without further delay she falls to mending what was amisse, to unwind, spread open, and to set them again in due order and frame very ingeniously. What say you to this? That the Spider beareth a deadly feud and mortall hatred to Serpents: for if so be the Serpent at any time lie in the shadow under any tree to cool himself, where Spiders do resort, some one of them levelleth directly at him, descending down perpendicularly to the Serpents head, and with such a violence striketh and dasheth at his head with her beak or snout, that her enemy withall making a whizzing noyse, and being driven into a giddinesse, turning round, hisseth, being neither able to break asunder the thred that cometh from above, nor yet hath force enough to escape it. Neither is this spectacle or pageant ended, untill this our champion with her battering, hath sent her life to *Pluto*, the God of Hell for a present. Let men therefore be silent, and cease wondering at the amphitheatricall fights of the *Romans*, which were made with seats and scaffolds to behold Playes and fights, and where were presented to the Spectators the bloody fights of Elephants, Bears, and Lions, sithence a small Spider dare challenge to the field, and fight hand to hand with a black and blew Serpent, and not only to come down to him in daring wise, but also victoriously to triumph over him, entirely possessing all the spoyle. Who would not marvel that in so small, or in a manner no body at all, which hath neither bones, nor sinewes, nor flesh, nor scarce any skin, there could be so great force, such incredible audacity and courage, such sharp and hard birings, and invincible fury? Surely we must conclude necessarily, that this cannot proceed altogether from their valiant stomacks, but rather from *GOD* himself: In like sort, they dare buckle with Toads of all sorts, both of the land and water, and in a singular combate overthrow and destroy them, which thing not only *Pliny* and *Albertus* do recite and set down for a certain truth, but *Erasmus* also in his Dialogue entituled *De Amicitia*, maketh mention of, reporting how a certain Monk lying fast asleep, on whose mouth a foul Toad sate, and yet by the Spiders means was freed from all hurt. Yea, they dare enter the combat with winged and stinged Hornets, having not soft but stiffe bodies, and almost as hard as horn, who although she many times breaketh through their Cobwebs with main strength (as rich men undoe and make a way through Lawes with Gold, and by that means many times scape scot-free) yet for all that, at length being over-mastered, hand to hand in single combat, and intangled and insnarled with the binding paltinesse, and tenacious glewish substance of the Web, she payeth a dear price for her breaking into anothers house and possession, yeelding at length to the Spiders mercy.

I will not omit their temperance, a vertue in former ages proper only to men, but now it should seem peculiar to Spiders. For who almost is there found (if age and strength permit) that contenteth himself with the love of one as he ought, but rather applyeth his minde, body, and wandering affections to strange loves? But yet Spiders so soon as they grow to ripenesse of age, do choose them Mates, never parting till death it self make the separation. And as they cannot abide Corrivalls, if any Wedlock-breakers, and Cuckold-makers dare be so snappish to enter, or so insolently proud as to presse into anothers house or Cottage, they reward him justly

with condigne punishment for his temerarious enterprize, and flagitious fact: First by their cruel bitings, then with banishment or exile, and oftentimes with death it self. So that there is not any one of them, that dare offer villany or violence to anothers Mate, or seek by any means unlawfully to abuse her. There is such restraint, such strict orders, such faithfull dealing, uprightnesse of conscience, and Turtle love amongst them. Further, if you look into their house-keeping, you shall finde there is nothing more frugall then a Spider, more laborious, cleanly, and fine. For she cannot abide that even the least end or piece of her thred to be lost, or to be placed and set to no use or profit, and they ease and relieve themselves by substitutes, that supply their rooms and take pains for them: for whilest the Female weaveth, the Male applyeth himself to hunting, if either of them fall sick and be weak, then one of them doth the work of both, that their merits and deserts may be alike. So sometimes the Female hunteth whilest the Male is busie about Net-making, if the one stand in need of the others help and furtherance.

But yet commonly the Female-Spider being instructed of her Parents when she was young and docible, the art of spinning and weaving (which custome was amongst us also in times past) beginneth the Cobweb, and her belly is sufficient to minister matter enough for such a piece of work, whether it be that the nature or substance of the belly groweth to corruption at sun-set and appointed time (as *Democritus* thought) or whether there be within them a certain lanigerous fertility naturally as in Silk-worms. *Aristotle* is of opinion, that the matter is outward as it were a certain Shell or pill, and that it is unwound, loosened, and drawn out by their fine weaving and spinning. But howsoever it be, certain it is, they will not by their good wills lose the least jot of a threds end, but very providently see to all though never so little. The love they bear to their young breed is singular, both in the care they have for their fashioning and framing to good orders, and for their education otherwise, for the avoidance of idlenesse. For the Male and Female do by turns sit upon their Egges, and so by this way interchangeably taking courses, they do stirre up, quicken, move and encrease naturall and lively heat in them, and although it hath been sundry times observed, that they have brought forth three hundred young ones at once, yet do they train them up all alike without exception, to labour, parsimony, and pains-taking, and inure them in good order, to fashion and frame all things fit for the weaving craft. I have often wondred at their cleanlinesse, when to keep all things from nastinesse or stinking, I have beheld with mine eyes those that were lean, ill-favoured, and sickly, to come glyding down from the upper to the lower part of their buildings, and there to exonerate nature at some hole in the Web, lest either their shop, work-house, or frame might be distained or annoyed. And this is sufficient to have spoken of their politicall, civil, and domesticall vertues: Now will I proceed to discourse of their skill in weaving, wherewith *Pallas* was so much offended: for the Scholar excelled her Mistres, and in fine, cunning, and curious workmanship, did farre surpass her. First then let us consider the matter of the Web, whose substance is tough, binding, and glutinous, pliant, and will stick to ones fingers, like Bird-lime; and of such a matter it is compounded, as it neither loseth his clamminesse and fast-holding quality, either by siccity or moysture.

The matter whereof it is made, is such as can never be consumed, wasted, or spent, whilest they live, and being so endlesse, we must needs here admire and honour the never ending and infinite power of the great God: for to seek out some naturall reason for it, or to ascribe it to naturall causes, were in my minde meer madnesse and folly. The Autumnall Spiders, called *Lupi* or *Holci*, Wolves or Hunters, are thought to be the most artificiall and ingenious: For these draw out a thred finer and thinner then any Silk, and of such a subtilty, that their whole Web being folded together, will scarce be so heavy as one fine thred of Linnen being weighed together. *Edwardus Monimus* hath very finely and eloquently described both the Males and Females, *Heptam. lib. 7.* in these words following;

—Ille domum venatu pascit, at ista
Mæonio graciles orditur tegmine telas.
Stanniparus venter, vomifilus lanifer, ipsi
Palladiam cumulatque colum, calatosque ministrat.
Ipsius est fusum pondus, quod fila trabendo
Necit & intorquet parili sub tegmine ducta.
Illa suam à mediis orditur Dædala telam,
Et gracili tennes intendit stamine tractum.
Tela jugo juncta est, stamen secernit arundo,

Inseritur medium radiis subtegmen acutis,
Atque oram à centro panum sibi staminat illam,
Pervia tela patet gemina de parte, feroci
Ne concussa euro frangantur stamina, quoque
Musca volax tenui streitur sinuamine cassis,
Reticuli primam vix muscula contigit oram.
Mors abit in tela centrum, ut discrimine parvo
Vinciat ipse suo peregrinam casse volucrem.

Which may be Englished thus;

The Spider-male by hunting game the houses charge doth feed,
The female with Mæonian art begins to spin fine thred,
Out of Web-breeding belly, breast woolly, upcasting twine,
Whereto the distaffe she applies by art of *Pallas* fine:
To her belongs the pressed weight, which doth the teal out-draw,
Both matter, art, and substance, she doth shield by natures Law.
Like *Dædala* out of her middest, her web she doth begin,
And stretching out her tender worke, by pressing it full thin:

*The which is joyned as in yoke, yet parted by a cane,
And planted is the middle roof in a sharp beamy frame.
And from the Center draweth a thred like wooll to lye upon,
While double work on every part doth fortifie her wone:
Wherewith the blasts of Eastern winde unbroken web resists,
And tender fly insnarled, is fallen into those lists.
While scarce upon the edge or brim this little Flie doth fall,
But by and by death seizeth her within webs center thrall:
And so the stranger winged Flie with little or no ado,
She overcometh speedily when it the nets comes to.*

Of these Cobwebs there is great diversity, variety and difference: for some of them are loose, weak, slack, and not well bound: other contrary-wise well compacted, and close couched together, some triangular, othersome quadrangular; and some are made with all sides equall, but yet not right angled or cornered like a quarry of Glasse; others are made of such a form as will best fit the place where they hunt, you shall perceive some of them to be orbicular, if they weave between two trees, and you shall finde this fashion also among weeds, and oftentimes in Windowes hanging together with many lines and different crosse pieces: so that herein no man can deny but that they shew forth great reason, wisdom, admirable judgement, and much gallant beauty worthy to see to.

Surely *Euclides* that famous Geometrician, who was Scholar to *Socrates*, and lived in the time of *Ptolemy* the first, need not be ashamed to learn from Spiders the drawing of divers of his figures and Geometricall proportions. And Fisher-men also from them have been glad to learn the trade of Net-making. For from whom else could they borrow and fetch such lively representations, and such expresse patterns, then from such a skilfull and industrious School-master. But the strength of the web seemeth to be very strange, which although it seemeth to be the most weak of all other things, yet we see it is able to hold Hornets, and to endure the furious blatts of raging windes, and if one throw or cast dust upon it, the same will rather be distended and stretched, then either undone, broken, or felled down.

And yet this is the strangest of all, which many a man would think impossible but that it cannot be called in question, in regard we may daily see and observe the proof thereof cometh to passe, that a Spider should begin to place the one end of her thred on the one side of a little River or Brook, and how she should fasten the other end on the other side of the water, considering that Nature never taught them the art either of flying or swimming. I would fain be resolved of this scruple, by what means they sayt and passe over. Or do you imagine that they jump over, or convey themselves over in a leap? Surely I dare not say so, I much doubt thereof, I will not stand to it.

The next that best deserveth to be marshalled in the second rank and place, for cunning work in weaving and spinning, be those kinde of Spiders who build and labour about the rafters of Houses, in Cellars, floors, and about boards, planks, and such like, and of these some are wilder, which do fashion and dresse a broad, thick, and plain web in the grasse and fields all about, stretching out the same like a sayl, or some fine spread Sheer or Curtain.

If you would duely look into their work, and thoroughly consider the strange trydles of their Looms, the Shittles they use, their Combes to make all clean, the stay of their Looms wherewith they dresse their Webs, their Crosse-lines, the frame, Wouf, their fine spinning-stuffe, and so their whole Cobwebs, you shall therein very plainly behold the finger of God working in his poor and weak Creatures. And questionlesse in this excellent mystery they are able to put down, and farre surmount the Egyptians, the Lydians, *Penelope*, *Tanaquil* (who was Wife to *Tarquinius Priscus*) *Amestris* that famous Queen of Persia, *Claudiana*, *Sabina*, and *Julia*, Noble Roman Ladies, and all the Queens of Macedonia, who were esteemed and renowned throughout the whole world, to be the most curious and exquisite in this kinde of faculty, and who in needle-work, Tapestry, and all Embroidery, were thought to be Peerlesse. For these Spiders (even contrary to all reason and Art, as we think) make a firm, strong, and well compacted Web with no lines or threds drawn crosse-wise or overthwart, but only made out and continued still in length. When their work is perfected and brought to an end, they lay over it and cover it round about with a certain glutinous kinde of Jelly, or slimed juice, by touching of which their prey being entangled, pay full dearly for their ignorant rashnesse, unadvised heed-taking, and lack of fore-sight. Their Web is of the colour of the air, or rather none at all, which easily deceiveth the foolish unwary Flies, and such as be quick-sighted, circumspect, and can espy things very quickly. For if it did represent any notorious and manifest colour, they would provide in time against such dangerous devises, and take heed of such traps aforehand.

The baser and vilder sort of Spiders, and such as be least reputed of, are those that live in holes, Caves, and corners of Houses, and these in respect of the former are slow, slothfull, and lazy, fat, grosse, and big-bellied corner-crawlers, and these spin a very homely, rough, and course thred, which they spread abroad, and set before the hollow places and chinks of Walls. These Kindes of Spiders have a more heavy and ponderous body, shorter feet, and more unhandsome

to work or finish any Webbes in their Looms, and as for separating, dividing, picking, carding, or futing their stufte, they are very Bunglers to the first mentioned.

They apprehend and take their preyes rather casually, then take any great pains to seek farre for it, because their hole being great outwardly, seemeth to be a good and convenient lurking-corner, and a safe corner for Flies to hide themselves in: but being entangled and arrested in the very entry, they are snatched up suddenly by the watchfull Spider, and carryed away into the more inward places of their dens, there to be slaughtered. For they watch and ward aloft in high walls and buildings, as well to deceive such Birds as lye in wait to intrap and take them at unawares, (as Sparrowes, Robin-red-breasts, Wrens, Nightingales, and Hedge-Sparrowes, which are all sworn enemies to Spiders: and besides, the more easily to beguile the silly flies suspecting no harm at all.

There be certain other sorts of Spiders, which as yet I have not described: as for example; there is one (the greatest of all that ever I saw) which spreadeth her artificiall nets in the Harvest-time amongst the leaves and branches of Roses, and entangleth either any other little Spider that is running away, or else Gnat-flies, and such like, being caught at unawares, and hanged by a kinde of thred, whom she first pursueth and layeth hold on with a wonderfull dexterity and quicknesse: and being fast hanged, and so made sure, she there leaveth them, for the satisfying of her hungry appetite till another time. The body of this Spider is in colour somewhat whitish, resembling scumme or frothy some, and almost of an Oval-figure, the head very little, placed under her belly, being withall crooked or bending like hooks, as is to be seen in the Crab-fish, and her back garnished with many white spots.

This is one kinde of *Autumnall-Lupi*, or Wolf-Spider, which in a very short space of time do grow from the bignesse of a little Pease, to a very great bulk and thicknesse. There are also found in all places of this Countrey, long-legged Spiders, who make a very homely and disorderly Web. This kinde of Spider liveth altogether in the fields, her body is almost of a round figure, and somewhat brownish in colour, living in the grasse, and delighting in the company of Sheep: and for this cause I take it, that we *English* men do call her a Shepherd; either for that she keepeth and loveth to be among their flocks, or because that Shepherds have thought those grounds and feedings to be very wholesome wherein they are most found, and that no venomous or hurtfull creature abideth in those fields where they be: And herein their judgement is to be liked, for they are indeed altogether unhurtfull, whether inwardly taken, or otherwise outwardly applyed; and therefore because I am tyed within a Teather, and thereby restrained from all affectionate discourfing or dilating unlesse of poysonous and harmful Creatures, I will come into my path again, and tell you of another certain black Spider, that hath very short feet, carrying about with her an Egge as white as Snow under her belly, and running very swiftly: the Egge being broken, many Spiders creep forth, which go forth with their dam to seek their living al together, and climbing upon her back when night approacheth, there they rest, and so they lodge.

In rotten and hollow trees there are also to be found exceeding black Spiders, having great bodies, short feet, and keeping together with Cheeselips or those creeping vermine with many feet, called of some *Sowes*. We have seen also (saith the learned *Gesner*) Spiders that were white all over, of a round compact and well knit body, somewhat broad, living in the flowers of Mountain Parsely, amongst Roses, and in the green grasse: their Egges were little, slender, and very long, their mouth speckled, and both their sides were marked with a red line running all alongest. He took them to be very venomous, because he saw a Marmoset or Munkey to eat of them, and by eating thereof hardly to escape with life, yet at length it did well again, and was freed from further danger, only by powring down a great deal of Oyl into his throat. I my self have also seen some Spiders with very long bodies and sharp tayls, of a blackish or dark red colour, and I have noted other some again to be all over the body green-coloured. I will not deny but that there are many other sorts of Spiders, and of many more different colours, but I never read, or yet ever saw them: *Neque enim nostra fert omnia tellus*, The ages ensuing peradventure will finde more.

I will only put you in remembrance of this one thing worthy to be observed, that all weaving and Net-making Spiders, according as they grow in years, so do they acquire more knowledge, and attain to greater cunning and experience in their spinning trade: but carrying a resolute and ready will to keep both time and measure with that Musick which best contents most ears, I will now pass to speak of the propagation and use of Spiders, and so I will close up this discourse.

The propagation of Spiders for the most part is by coupling together, the desire and action whereof continueth almost the whole Spring-time, for at that time by a mutuall and often drawing, and easie pulling of their Web, they do as it were wooe one another, then approach they neerer together, and lastly are joyned with their hippes one against another backwards as Camels do, for that is the most fit for them, in regard of the round proportion and figure of their bodies. In like sort do the *Phalangies* joyn together, and are generated by those of the same kinde, (as *Aristotle* saith:) But the *Phalangies* couple not in the Spring-season, as the other Spiders doe, but towards Winter, at what time they are very swift, quick, nimble, and of most certain hurt, more dangerous, and more venomous in their bitings. Some of them after their coupling together, do lay one Egge only, carrying it under their belly, it is in colour as white as Snow, and both Male and Female sit upon it by turns.

Some Spiders do exclude many little Egges very like unto the seeds of Poppy, out of which it hath been observed, that sometimes there have been hatched three hundred Spiders at one time, which after their vain and idle plying and sporting together in their web, at length come forth with their Dam, and towards evening they all trudge home, until each one hath learned, and perfectly attained to the skill to spin his own web, that therein he may spend the residue of his days in more pleasure, ease and security. They make exclusion of their young breed in hopping or skipping-wise, they sit on their Egges for three days space together, and in a moneths space their young ones come to perfection. The domestical or House-spider, layeth her egges in a thin web, and the wilde-spider in a thicker and stronger, because they are more exposed to the injuries of windes, and lie more open to the rage and fury of storms and showers.

The place and Countrey where they are, helpeth much, and is very available to their generation. There is no Countrey almost, but there are many Spiders in it. For in the Countrey about *Arrha*, which is in *Arabia felix*, there is an infinite number of them to be found, and all the Island of *Candie* swarmeth with *Phalangies*. *Strabo* saith, that in *Ethiopia* there be a great number of *Phalangies* found, of an exceeding bignesse: although as *Pliny* saith in his eight Book and 58 chapter, there are neither Wolves, Foxes, Bears, nor no hurtful creature in it: and yet we all know that in the Isle of *Wight* (a member of *England*;) the contrary is to be found, for although there were never dwelling in it Foxes, Bears, nor Wolves, yet there be Spiders enow.

The Kingdom of *Ireland* never saw Spiders, and in *England* no *Phalangies* will live long, nor yet in the Isle of *Man*, and neer unto the City of *Grenoble*, in that part of *France* which lyeth next *Italy*, *Gaudentius Merula* saith, there is an old Tower or Castle standing, wherein as yet never any Spider hath been seen, nor yet any other venomous creeping creature, but rather if any be brought thither from some other place, they forthwith die. Our Spiders in *England*, are not so venomous as in other parts of the world, and I have seen a mad man eat many of them, without either death or deaths harm, or any other manifest accident or alteration to ensue. And although I will not deny, but that many of our Spiders being swallowed down, may do much hurt, yet notwithstanding we cannot chuse but confesse, that their biting is poysonlesse, as being without venom, procuring not the least touch of hurt at all to any one whatsoever; and on the contrary, the biting of a *Phalangie* is deadly.

We see the harmlesse Spiders almost in every place, they climb up into the Courts of mighty Kings, to be as it were myrrors and glasses of vertue, and to teach them honest prowesse and valiancy. They go into the lodgings, shops and Ware-houses of poor men, to commend unto them contentment, patience, labour, tolerance, industry, poverty and frugality. They are also to be found in rich mens chambers, to admonish them of their duties. If you enter into your Orchard, they are busie in clothing every Tree; if into the Garden, you shall finde them amongst Roses; if you travail into the field, you shall have them at their work in hedges, both at home and abroad, whithersoever you bend your course, you cannot chuse but meet with them, lest perhaps you might imagine, or else complain and finde some faults, that the Schoolmistresse and perfect president of all vertue and diligence were in any place absent.

Who would not therefore be touched, yea and possessed with an extream wonder at these vertues and faculties, which we daily see and behold with our eyes. *Philes* hath briefly and compendiously described their nature, properties, inclinations, wit and invention in his *Greek* verses, which being turned into *Latine*, sound to this effect.

*Araneis natura per quam industria est,
Vincens puellarum manus argutias.
Nam ventris humores supervacaneos
Ceu fila nent, textoris absque pestine
Et implicantes orbium volumina,
Adversa sublegunt iis subtegmina:
Sed liciis hinc densioribus plagas
In aere appendunt, nec unde conspicor
Sejuncta cum sit omnis a medio basis
Que fulciat mirabilem operis fabricam.
Et staminum fallit ligamen lumina*

*Subtilitatis sub dio discrimine.
Firmatur autem densitas subtegminis,
Raras in ambientis oras aeris.
Muscis, culicibus, & id genus volantibus
Intensa nebens fraudulententer retia.
Quod incidit, jejuna pascit hoc famem,
Vitamq; degit haud quietis indigam.
Suspensa centro, cassibusque providens,
Ne fila rumpat, orbiumque dissuat
Nexus retortos flaminis vis irruens.*

Which may be Englished thus;

Industrious nature Spiders have,
Excelling Virgins hands of skill,
Superfluous humors of bellies save,
And into webs they weave them still,
And that without all Weavers combs
Their folding orbes inrolled are,
And underneath their woofs as tomes,
Are spread the worthy work to bear,
And hang their threads in air above,
By plagues unseen to the eye of man,
Without foundation you may prove
All their buildings firmly stand:

Nor yet clear light to the eyes most bright
Can see the coupling of their thread,
The thinnesse of the woof in sight,
On pins of air are surest spread.
On Gnats and silly winged Flies,
Which guilefully in nets they take,
They feed their fill when they espy,
And yet their life much rest doth make.
They labour too, and do provide
Gainst windes and things that break their walls,
That bands from tacklings may not slide,
When greater strength doth them assail.

And

And although *Minerva* hath nick-named the Spider, calling her malepert, shamelesse, and sawcie; *Martiall*, wandring, straying and gadding; *Claudianus*, rash, presumptuous, and adventurous; *Politianus*, hanging and thick; *Juvenal*, dry; *Propertius*, rotten; *Virgil*, light; and *Plautus*, unprofitable and good for nothing: yet it is clear, that they were made to serve and stead us, to many excellent uses: so that you may plainly gather and perceive, that this is rather an amplification, then any positive or measured truth, concerning the fond Epithets, vile badges and liveries, which these rehearsed Authors have unworthily bestowed on them, as by that which followeth may plainly be seen.

Their use.

The Spider put into a linnen clowt, and hung upon the left arm, is an excellent medicine to expel a Quotidian Ague, as *Trallianus* saith: and yet it will be more effectual if many Spiders be boyled with Oyl of Bay to the consistence of a liniment, to anoynt the wrists and the temples a little before the fit, for by this means the Feaver will be absolutely cured, or will seldom return again. *Kirapides*. A Spider tempered and wrought up with Milt-wast or *Ceterach*, and so spread upon a cloth to be applyed to the temples, cureth the fits of a Tertian Feaver. *Dioscorides*. The Spider that is called a Wolf, being put into a quill, and so hanged about the neck performeth the same effect, as *Pliny* reporteth. The domestical Spider, which spinneth and weaveth a thin, a white, or a thick web, being inclosed in a piece of leather, or a Nut-shel, and so hanged about the neck, or worn about the arm, driveth away the fits of a Quartain Feaver, as both *Dioscorides* and *Fernelus* have thought. For the pain in the ears, Take three live Spiders, boyl them with Oyl upon the fire, then distil or drop a little of this Oyl into the pained ear, for it is very excellent, as witnesseth *Marcellus Empiricus*. *Pliny* steepeth them in Vinegar and Oyl of Roses, and so to be stamped together, and a little thereof to be dropped into the pained ear with a little Saffron, and without doubt, saith he, the pain will be mitigated, and the same affirmeth *Dioscorides*. Or else strain out the juyce of Spiders, mixing it with the juyce of Roses, and with some wooll dipped in the same liquor, apply it to the ear.

Sorastus in his Book *peri Dakeon* writeth, how that the Spider which is called *Cranocalaptes*, being stifled or choked in Oyl, is a very present help against any poison taken inwardly into the body, as the Scholiast of *Nicoander* reporteth. There be some that catch a Spider in the left hand, and bear and stamp it with the Oyl of Roses, putting some of it into the ear, on the same side the tooth aketh, and as *Pliny* telleth us, it doth exceeding much good. Spiders applyed and laid upon their own bitings, or taken inwardly into the body, do heal and help those hurts themselves procured.

What should I talke of the white spots of the eyes, a most dangerous grief? and yet are they clean taken away with very small labour, if so be one take the legs, especially of those Spiders which are of the whiter sort, and stamping them together with Oyl, do make an Ointment for the eyes. *Pliny*. The moist juyce that is squeezed out of a house Spider, being tempered with Oyl of Roses, or one dram of Saffron, and a drop or two thereof dropped into the eyes, cureth the dropping, or watering of them, by means of a rume issuing out thereat, or else the moisture of a Spider or his urine being taken by themselves, laying a little wooll on the top of the part affected, worketh the same effect; whereby you may well understand, that there is nothing in a Spider so vile, homely, or sordidous, that doth not some good, and serveth to some end.

Against the suffocation of the belly, *Aetius* doth counsel to apply a *Cerote* to the navel made of Spiders, and saith that he hath found it to prevail much in this kinde of passion. *Pliny* saith, but he yeeldeth no reason for it, that Spiders help the pain and swelling of the Spleen. He writeth also further, that if a man catch a Spider, as she is gliding and descending downwards by her thread, and so being crushed in the hand, and then applyed to the navel, that the belly will be provoked to the stool, but being taken as she is ascending, and applyed after the same former manner, that any loosenesse or flux is stayed, and restrained thereby. The same *Pliny* also writeth, that if a man take a Spider, and lay it upon a Fellon; (provided that the sick patient may not know so much,) that within the space only of three days, that terrible and painful grief will be clean taken away. And besides he affirmeth that if the head and feet of a Spider be cast away, and the rest of the body rubbed and bruised, that it will thoroughly remedy the swelling in the fundament, proceeding of inflammation.

If any be vexed with store of Lice, and do use a suffumigation made only with Spiders, it will cause them all to fall and come away, neither will there afterwards any more breed in that place. The fat of a Goose tempered and mixed with a Spider and Oyl of Roses together, being used as an Ointment upon the breasts, preserveth them safely, as that no milk will coagulate or curdle in them after any birth. *Anonymus*. Yea, that same knotty scourge of rich men, and the scorn of Physitians, I mean the Gowt, which as some learned men hold can by no means be remedied, yet feeleth mitigation and diminution of pain, and curation also, only by the presence of a Spider, if it be taken alive, and her hinder-legs cut off, and afterward inclosed in a purse made of the hide of a Stag. Moreover, we see, (which all other medicines can never do) that all they are freed for the most part, both from the Gowt in the legs and hands, where the Spiders are most found, and where they are most busie in working, and framing their ingenious devised webs. Doubtlesse, this is a rare miracle of nature, and a wonderful vertue, that is in this contemptible little creature, or rather esteemed to be so vile, abject, and of no estimation. Rich men were happy indeed, if they knew how to make use of their own good.

Antonius Pius was wont to say, that the sharp words, witty sayings, quirks and subtilties of Sophisters, were like unto Spiders webs, that contain in them much cunning Art, and artificial conceit, but

but had little other good besides. If any one be newly and dangerously wounded, and that the miserable party feareth a bleeding to death, what is a more noble medicine, or more ready at hand, then a thick Spiders web, to binde hard upon the wound, to stay the inordinate effusion of blood? Questionlesse, if we were as diligent and greedy to search out the true properties and vertues of our own domestical remedies, which we would buy of others so dearly, we would not enforce our selves with such eager pursuit after those of forain Countries, as though things fetcht far off, were better then our own neer at hand; or as though nothing were good and wholesome, unlesse it came from *Egypt, Arabia, or India*. Surely, unlesse there were some wilde worm in our brains, or that we were bewitched and possessed with some fury, we would not so far be in love with forein wares, or be so much besotted, as to seek for greedy new physick and Physical means, considering that one poor Spiders web will do more good, for the stanching of blood, the curation of ulcers, the hindering of fancies, slime, or slough to grow in any sore, to abate and quench any inflammations, to conglutinate and consolidate wounds, more then a Cart-load of Bole fetcht out of *Armenia, Sarcocolla, Sandaracha*, or that earth which is so much nobilitated by the impress of a seal, and therefore called *Terra Sigillata*, the clay of *Samos*, the dirt of *Germany*, or the loam of *Lemnos*. For a cobweb adstringeth, refrigerateth, foldereth, joyneth, and closeth up wounds, not suffering any rotten or filthy matter to remain long in them.

And in regard of these excellent vertues and qualities, it quickly cureth bleeding at the nose, the Hemorrhoids, and other Bloudy fluxes, whether of the opening of the mouths of the veins, their opertions, breakings, or any other bloudy evacuation that too much aboundeth, being either given by it self alone in some Wine, either inwardly or outwardly, or commixed with the Bloud-stone, *Crocus Martis*, and other the like remedies fit for the same intentions.

The cobweb is also an ingredient into an unguent which is made by Physitians, against the disease called *Serpego*, and being bound to the swellings of the fundament, if there be inflammation joynd withall, it consumeth them without any pain, as *Marcellus Empiricus* testifieth. It likewise cureth the watering or dropping of the eyes, as *Pliny* reporteth, and being applyed with Oyl, it consolidateth the wounds of the joints: and some for the same intent, use the ashes of cobwebs, with fine meal and white Wine mixed together.

Some Chirurgeons there be that cure Warts in this manner; They take a Spiders web, rolling the same up on a round heap like a ball, and laying it upon the Wart they then set fire on it, and so burn it to ashes, and by this way and order the Warts are eradicated, that they never after grow again. *Marcellus Empiricus* taketh Spiders webs that are found in the Cypresse tree, mixing them with other convenient remedies, so giving them to a podagrical person for the asswaging of his pain. Against the pain of a hollow tooth, *Galen* in his first Book *De Compos. medicam. secundum loca*, much commendeth, (by testimony of *Archigenes*) the Egges of Spiders, being tempered and mixed with *Oleum Nardinum*, and so a little of it being put into the tooth. In like sort *Kiramides* giveth Spiders egges for the curation of a Tertian Ague. Whereupon we conclude with *Galen*, in his Book to *Piso*, that Nature as yet never brought forth any thing so vile, mean, and contemptible in outward shew, but that it hath manifold and most excellent and necessary uses, if we would shew a greater diligence, and not be so squeamish as to refuse those wholesome medicines which are easie to be had, and without great charges and travail acquired.

I will add therefore this one note before I end this discourse, that Apes, Marmosets or Monkies, the Serpents called Lizards, the Stellion, which is likewise a venomous Beast like unto a Lizard, having spots in his neck like unto stars: Wasps, and the little beast called *Ichneumon*, Swallows, Sparrows, the little Titmouse, and Hedge-sparrows, do often feed full savourly upon Spiders. Besides, if the Nightingale, (the Prince of all singing Birds) do eat any Spiders, she is clean freed and healed of all diseases whatsoever.

In the days of *Alexander the Great*, there dwelled in the City of *Alexandria* a certain young maid, which from her youth up, was fed and nourished only with eating of Spiders, and for the same cause the King was premonished not to come neer her, lest peradventure he might be infected by her poysonous breath, or by the venom evaporated by her sweating. *Albertus* likewise hath recorded in his writings, that there was a certain noble young Virgin dwelling at *Colen* in *Germany*, who from her tender years was fed only with Spiders. And thus much we English men have known, that there was one *Henry Lilgrave*, living not many years since, being Clerk of the Kitchen to the right Noble *Ambrose Dudley* Earl of Warwick, who would search every corner for Spiders, and if a man had brought him thirty or forty at one time, he would have eaten them all up very greedily, such was his desirous longing after them.

of the STELLION.

They are much deceived that confound the green Lizard, or any other vulgar Lizard, for because the Stellion hath a rustie colour: and yet (as *Matthiolus* writeth) seeing *Aristotle* hath left recorded, that there are venomous Stellions in *Italy*, he thinketh that the little white Beast with stars on the back, found about the City of *Rome*, in the walls and ruines of old houses, and is there called *Tarantula*, is the Stellion of which he speaketh, and there it liveth upon Spiders. Yet that there is another and more noble kinde of Stellion, anciently so called of the learned, shall afterward appear in the succeeding discourse.

This

This Beast or Serpent is called by the *Grecians*, *Colotes*, *Ascalobtes*, and *Galeotes*, and such a one was that which *Aristophanes* saigneth from the side of a house eased her belly into the mouth of *Socrates* as he gaped, when in a Moon-shine night he observed the course of the stars, and motion of the Moon. The reason of this *Greek* name *Ascalabotes*, is taken from *Ascalos*, a circle, because it appeareth on the back full of such circles like stars, as writeth *Perottus*. Howbeit, that seemeth to be a faigned Etymologie, and therefore I rather take it, that *Ascala* signifieth impurity, and that by reason of the uncleanness of this beast, it was called *Ascalabates*, or as *Suidas* deriveth it, of *Colebates*, because by the help and dexterity of the fingers, it climbeth up the walls even as Rats and Mice; or as *Kiramides* will have it, from *Calos*, signifying a piece of wood, because it climbeth upon wood and trees. And for the same reason it is called *Galeotes*, because it climbeth like a Weasel, but at this day it is vulgarly called among the *Grecians*, *Liakoni*; although some are also of opinion, that it is also known among them by the words *Thamiamithos*, and *Psammamythe*.



Among the vulgar *Hebrews*, it is sometimes called *Letaab*, and sometimes *Semmamit*, as *Munster* writeth. The *Arabians* call it *Sarnabras*, and *Senabras*, a *Stellion* of the Gardens. And peradventure *Guarill*, *Guasemabras*, *Alurel*, and *Gnases*. And *Sylvaticus* also useth *Epithets* for a *Stellion*. And the general *Arabian* word for such creeping biting things, is *Vasga*, which is also rendered a Dragon of the house. Instead of *Colotes*, *Albertus* hath *Arcolus*. The *Germans*, *English*, and *French*, have no words for this Serpent, except the *Latine* word, and therefore I was justly constrained to call it a *Stellion*, in imitation of the *Latine* word.

As I have shewed some difference about the name, so it now ensueth that I should do the like about the nature and place of their abode. First of all therefore I must put a difference betwixt the *Italian* *Stellion* or *Tarentula*, and the *Thracian* or *Grecian*, for the *stellion* of the Ancients is proper to *Grecia*. For they say this *Stellion* is full of *Lentile* spots, or speckles, making a sharp or shrill shrieking noise, and is good to be eaten, but the other in *Italy* are not so. Also they say in *Sicilia*, that their *Stellions* inflict a deadly biting, but those in *Italy* cause no great harm by their teeth. They are covered with a skin like a shell or thick bark, and about their backs there are many little shining spots like eyes, (from whence they have their names) streaming like stars, or drops of bright and clear water, according to this verse of *Ovid*;

— Aptumque colori
Nomen habet variis Stellatus corpora guttis.

Which may be Englished thus;

And like his Spotted hiew, so is his name,
The body starred over like drops of rain.

It moveth but slowly, the back and tail being much broader then is the back and tail of a Lizard, but the *Italian* *Tarentulae* are white, and in quantity like the smallest Lizards: and the other *Grecian* Lizards, (called at this day among them *Haconi*) is of bright silver colour, and are very harmful and angry, whereas the other are not so, but so meek and gentle, as a man may put his fingers into the mouth of it without danger. One reason of their white bright shining colour, is because they want blood, and therefore it was an error in *Sylvaticus* to say that they had blood.

The teeth of this Serpent are very small and crooked, and whensoever they bite, they stick fast in the wound, and are not pulled forth again except with violence. The tail is not very long, and yet when by any chance it is broken, bitten, or cut off, then it groweth again. They live in houses, and neer unto the dores and windows thereof make their lodgings, and sometimes in dead-mens graves and Sepulchres, but most commonly they climbe and creep aloft, so as they fall down again; sometimes into the meat as it is in dressing; and sometimes into other things, (as we have already said) into *Socrates* mouth, and when they descend of their own accord, they creep side-long. They eat Honey, and for that cause creep into the Hives of Bees, except they be very carefully stopped, as *Virgil* writeth;

Nam saepe favos, ignotus adedit Stellio.

Many times the Stellion at unawares meeteth with the Honey-combs. They also of Italy many times eat Spiders. They all lie hid four months of the year, in which time they eat nothing, and twice in the year, that is to say, both in the Spring time and Autumn, they cast their skin, which they greedily eat so soon as they have stripped it off. Which Theophrastus and other Authors write, is an envious part in this Serpent or creeping creature, because they understand that it is a noble remedy against the Falling-sickness: wherefore to keep men from the benefit and good which might come thereby, they speedily devour it.

And from this envious and subtle part of the Stellion, cometh the crime in Ulpianus called *Crimen Stellionatus*, that is, when one man fraudulently preventeth another of his money, or wares, or bargain, even as the Stellion doth man kinde of the remedy which cometh unto them by and from his skin.

The crime is also called Extortion, and among the Romans, when the Tribunes did withdraw from the Souldiers their provision of victual and corn, it is said, *Tribunos qui per Stellaturas Militibus aliquid abstulissent, capitali pœna affecit*. And therefore Budæus relateth a History of two Tribunes, who for this stellature were worthily stoned to death by the commandment of the Emperor. And all frauds whatsoever, are likewise taxed by this name, which were not punishable but by the doom of the Supreme or highest Judge, and thereupon *Alciatus* made this Emblem following.

*Parva lacerta, atris Stellatus corpore guttis
Stellio, qui latebras & cava busta colit,
Invidiæ praviq; doli fert symbola, pitiùs:
Heu nimium nurbus cognita Zelotypis.*

*Nam turpi obtegitur faciem lentigine, quisquis
Sit quibus immerfus Stellio, vinâ bibat.
Hinc vindicta frequens, decepta pellice vino,
Quam formæ amisso flore relinquit amans.*

Which may be Englished thus;

The little Lizard, or Stellion starred in body grain
In secret holes, and graves of dead which doth remain,
When painted you it see, or drawn before the eye,
A symbole then you view of deep deceit and cursed envy:
Alas, this is a thing to jealous wives known too well,
For whosoever of that Wine doth drink his fill
Wherein a Stellion hath been drencht to death,
His face with filthy Lentile spots all ugly it appeareth,
Herewith a Lover oft requites the fraud of concubine,
Depriving her of beauties biew by draught of this same Wine.

The Poet Ovid hath a pretty fiction of the Original of this cursed envy in Stellions, for he writeth of one *Abas* the son of *Metaneira*, that received *Ceres* kindly into her house, and gave her hospitality, whereat the said *Abas* being displeased, derided the sacrifice which his mother made to *Ceres*; the Goddesse seeing the wretched nature of the young man, and his extream impiety against the sacrifice of his Mother, took the Wine left in the goblet after the sacrifice, and poured the same upon his head, whereupon he was immediately turned into a Stellion, as it is thus related by Ovid. *Metam. 5.*

*Combibit os maculas, & quæ modo brachia gessit
Crura gerit, cauda est mutatis addita membris;
Inque brevem formam, ne sit vis magna nocendi,
Contrahitur, parvaque minor mensura lacerta est.*

In English thus;

His mouth suckt in those spots: and now where arms did stand,
His legs appear, and to his changed parts was put a tail,
And lest it should have power to harm, small was the bodies band,
And of the Lizards poysonous, this least in shape did vail.

Their bodies are very brittle, so as if at any time they chance to fall, they break their tails. They lay very small egges, out of which they are generated: and *Pliny* writeth, that the juyce or liquor of these egges laid upon a mans body, causeth the hair to fall off, and also never more permiteth it to grow again. But whereas we have said, it devoureth the skin, to the damage and hurt of men, you must remember, that in ancient time the people did not want their policies and devises to take away this skin from them before they could eat it. And therefore in the Summer time they watched the lodging place and hole of the Lizard, and then in the end of the Winter toward the Spring, they took Reeds and did cleave them in sunder, these they composed into little Cabinets, and set them upon the hole of the Serpent: Now when it awaked and would come forth, it being grieved with the thicknesse and straightnesse of his skin, presseth out of his hole through those Reeds or Cabinet, and finding the same somewhat straight, is the more glad to take it for a remedy; so by little and little it slideth through, and being through, it leaveth the skin behinde in the Cabinet, into the which it cannot re-enter to devour it. Thus is this wily Serpent by the policy of man justly beguiled, losing that which it so greatly desireth to possesse, and changing nature, to line his guts with his coat, is prevented from that gluttony, it being sufficient to have had it for a cover

in the Winter, and therefore unsufferable that it should make food thereof, and eat the same in the Summer,

These Stellions (like as other Serpents) have also their enemies in nature, as first of all they are hated by the Asses, for they love to be about the Mangers and racks on which the Asses feedeth, and from thence many times they creep into the Asses open Nostrils, and by that means hinder his eating. But above all other, there is greatest antipathy in nature betwixt this Serpent and the Scorpion, for if a Scorpion do but see one of these, it falleth into a deep fear, and a cold sweat, out of which it is delivered again very speedily: and for this cause a Stellion putrified in Oyl, is a notable remedy against the biting of a Scorpion; and the like war and dissension, is affirmed to be betwixt the Stellion and the Spider.

Aetius.

We have shewed already, the difference of Stellions of *Italy* from them of *Greece*, how these are of a deadly poysonous nature, and the other innocent and harmlesse, and therefore now it is also convenient, that we should shew the nature and cure of this poyson, which is in this manner;

Whensoever any man is bitten by a Stellion, he hath ach and pain thereof continually, and the wound received looketh very pale in colour, the cure whereof, according to the saying of *Aetius*, is to make a plaister of Garlick and Leeks mixed together, or else to eat the said Garlick and Leeks, drinking after them a good draught of sweet Wine, unmixed and very pure, or else apply *Nigella Romana*, *Sesamyn*, and sweet Water unto it. Some (as *Arnoldus* writeth) prescribe for this cure the dung of a Faulcon, or a Scorpion to be bruised all to pieces, and laid to the wound. But sometimes it happeneth, that a mans meat or drink is corrupted with Stellions that fall into the same from some high place where they desire to be climbing, and then if the same Meat or Wine so corrupted be eaten or drunk, it causeth unto the party a continual vomiting and pain in the stomach. Then must the cure be made also by vomits to avoid the poyson, and by Glysters to open the lower passage, that so there may be no stop or stay, to keep the imprisoned meat or drink in the body. And principally those things are prescribed in this case, which are before expressed in the *Cantharides*, when a man hath by any accident been poysoned by eating of them.

Crescen.

Pliny.

The remedies which are observed out of this Serpent are these: Being eaten by Hawks, they make them quickly to cast their old coats or feathers. Others give it in meat after it is bowelled, to them that have the Falling-sicknesse. Also when the head, feet, and bowels are taken away, it is profitable for those persons which cannot hold in their urine; and being sodden, is given against the Bloody-flux. Also sod in Wine with black Poppy-seed, cureth the pain of the loins, if the Wine be drunk up by the sick patient.

The Oyl of Stellions being anointed upon the arm-holes or pits of children, or young persons, it restraineth all hair for ever growing in those places. Also the Oyl of Stellions, which are sod in Oyl-olive with Lizards, do cure all boils and wens, consuming them without lancing or breaking. And the ashes of the Stellion are most principally commended against the Falling-sicknesse, like as also is the skin or trunk, as we have said before. The head burned and dried, and afterward mixed with Honey-attick, is very good against the continual dropping or running of the eyes; and in the days of *Pliny*, he writeth that they mixed *Stibium* herewithal. The heart is of so great force, that it being eaten, bringeth a most deep and dangerous sleep, as may appear by these verses:

*Mande cor, & tantus prosterne corpora somnus,
Ut scindi possunt absque dolore manus.*

Which may be Englished thus;

*Eat you the heart, and then such sleep the body will possesse,
That hands may from the same be cut away painlesse.*

To conclude, the Physitians have carefully observed sundry medicines out of the egges, gall, and dung of Stellions, but because I write for the benefit of the *English* Reader, I will spare their relation, seeing we shall not need to fear the bitings of Stellions in *England*, or expect any drugs among our Apothecaries out of them, and therefore I will here end the History of the Stellion.

Of the TYRE.

Aetorius.

Celius Rho.

Amatus.

Here be some which have confounded this Serpent with the Viper, and taken them both to be but one kinde, or at least the Tyre to be a kinde of Viper, because the *Arabians* call a Viper *Thiron*, of the *Greek* word *Therion*, which signifieth a wilde beast, and whatsoever the *Grecians* write of their *Echidna*, that is their Viper, the same things the *Arabians* write of the Tyre, and *Leonice-nus* compiled a whole Book in the defence of that matter: and from hence cometh that noble name or composition antidotary, called *Theriaca*, that is, Triacle. But *Avicen* in the mention of the Triacle of *Andromachus*, distinguisheth the Triacle of the Viper, from that of the Tyre, and calleth one of them *Trobiscos Tyri*, and the other *Trobiscos Viperae*. So *Gentilis* and *Florentinus* do likewise put a manifest difference betwixt the Tyre and the Viper, although in many they are alike, and agree together.

This Tyre is called in *Latine* *Tyrus* and *Tyria*, and also among the *Arabians*, as *Sylvaticus* writeth, *Eosmari*, and *Alphahex*. *Rabbi Moses* in his Aphorisms writeth, that when the Hunters go to seek these

These Serpents, they carry with them bread, which they cast unto them; and while the Tyre doth eat it, he closeth his mouth so fast, that his teeth cannot suddenly open again to do his hunting adversary any harm, and this thing (as he writeth) is very admirable at the first, to them that are ignorant of the secret in nature. Galen also writeth so much to Pise of Vipers, and he saith that the Circulators, Juglers or Quacksalvers, did cast certain mazes or small cakes to them; which when they had tasted, they had no power to harm any body.

This *Tyrus* is said to be a Serpent about the coasts of *Jericho* in the Wildernesse; where it hunteth Birds, and liveth by devouring of them and their eggs. And a confection of the flesh of this Serpent, with the admixture of some few other things, taketh away all intoxicate poyson, which confection is called *Triacle*. It is also reported, that whereas the Dragons have no poyson of themselves, they take it away from this Serpent, and so poyson with a borrowed venom. For this poyson is very deadly: and there is a tale (which I will not tell for truth) that before the coming and death of our Saviour Jesus Christ, the same was unremediable, and they dyed thereof, whosoever they were that had been poysoned by a Tyre; but on the day of Christ his passion, one of them was found by chance in *Jerusalem*, which was taken alive, and brought to the side of our Saviour hanging upon the Crosse, where it also fastened the teeth, and from that time ever since, all the kinde have received a qualified and remediable poyson, and also their flesh made apt to cure it self, or other venoms.

It is reported that when the *Tyrus* is old, he casteth, or rather wresteth off his coat in this manner following; First it getteth off the skin which groweth betwixt the eyes, by which it looketh as if it were blinde; and if it be strange to a man, (I mean the first time that ever he saw it) he will verily take it to be blinde: afterward, it also sleiyeth off the skin from the head, and so at last by little and little, the whole body, at which sight it appeareth as though it were an Embryon, or skinlesse Serpent. They keep their eggs in their belly, and in them breed their young ones, as the Vipers do, for before they come out of the dams belly, they are in all parts (according to their kinde) perfect creatures; and so every one generateth his like, as do four-footed Beasts.

I take it by the relation of *Gesner*, that the *Dipsas* in *Italy* is called *Tyrus*. Also *Cardan* writeth, that there is a supposed and false conceit, that with the flesh of this Tyre, mixed with Hellebore and water, is made a confection to restore youth: but the truth is, it rather weakeneth and destroyeth bodies, then helpeth them, and maketh a counterfeit or varnished false youth, but no true youth at all. Thus far *Cardan*, and thus much of this Serpent, the other things written of it, are the same that are written of the Viper.

Of the TORTOISE.

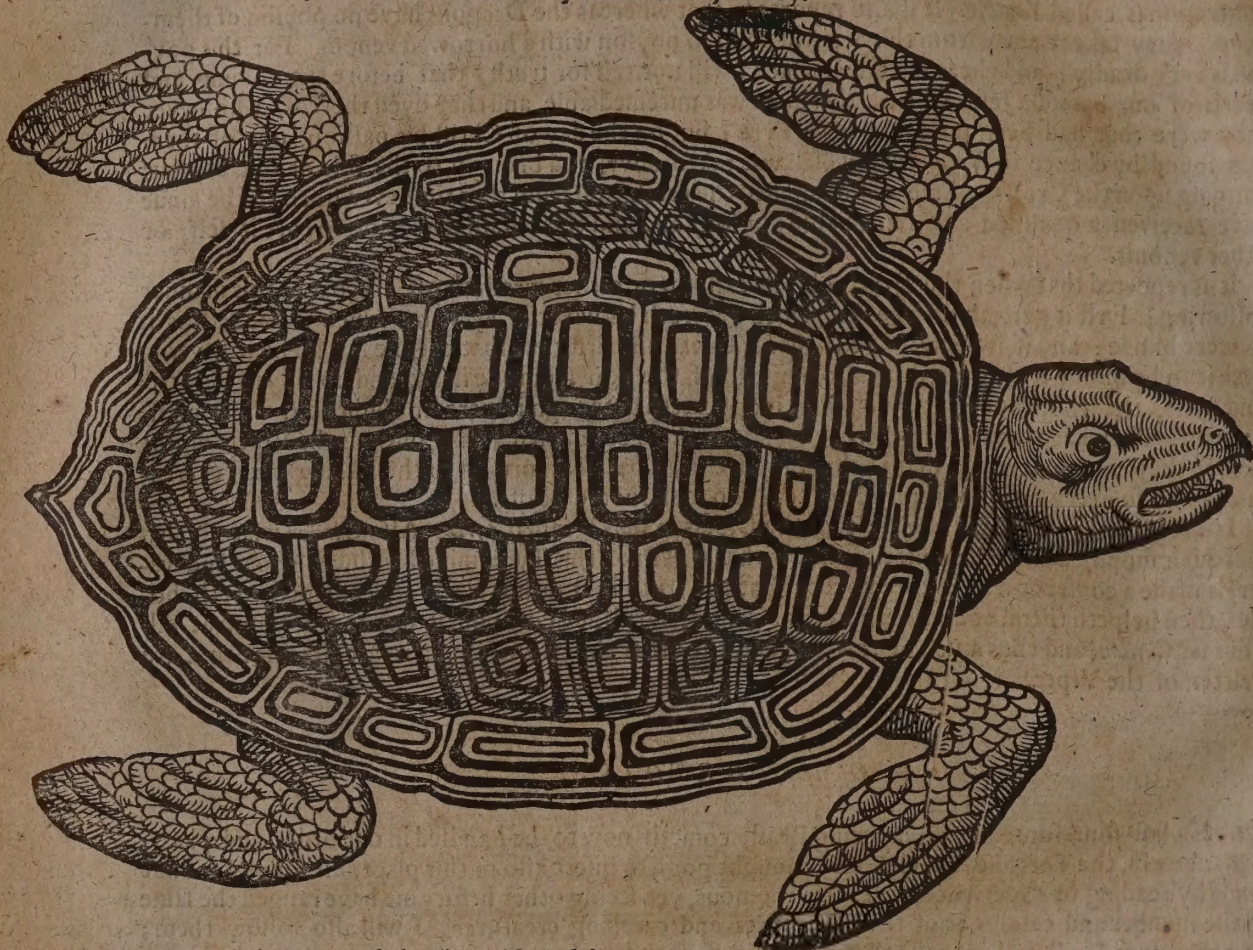
THE last four-footed Egge-breeding Beast, cometh now to be handled in due order and place; namely, the Tortoise, which I have thought good to insert also in this place, although I cannot finde by reading or experience, that it is venomous, yet seeing other before me have ranged the same in the number and catalogue of these Serpents and creeping creatures, I will also follow them; and therefore I will first expresse that of the Tortoise, which is general and common to both kindes, and then that which is special, and proper to the Land and Sea Tortoises.

The name of this Beast is not certain, among the *Hebrews* some call it *Schabbul*, some *Kipod*, and some *Homet*; whereas every one of these do also signifie another thing, as *Schabbul*, a Snail; *Kipod*, a Hedge-hog; and *Homet*, a Lizard. The *Chaldeans* call this Beast *Thiblela*; the *Arabians* term it *Sisemat*, also *Kauoen salabbase*, and *Halacbalie*; the *Italians* call this *Testuma*, *testudine*, *vel testugine*, *tartuca*, *ensuruma*, *tartocha*, & *coforona*. And in *Ferraria*, *Gallana*, *tartugella*, *bisca scutellaria*; the *Inhabitants* of *Taurinum*, *Cupparia*; the *Portugals*, *Gagado*; the *Spaniards*, *Galapago*, and *Tartuga*; the *French*, *Tortue*, and *Tartue*; and in *Savoy*, *Bong coupe*; the *Germans*, *Schiltkrot*, and *Tallerkrot*; the *Flemings*, *Schilt-padde*, which answereth our English word *Shell-crab*; the *Grecians* call it *Chelone*; and the *Latines*, *Testudo*: which words in their several languages, have other significations, as are to be found in every vocabular Dictionary, and therefore I omit them, as not pertinent to this businesse or History.

There be of Tortoises three kindes, one that liveth on the land, the second in the sweet waters, and the third in the Sea, or salt waters. There are found great store of these in *India*, especially of the Water-tortoises, and therefore the people of that part of the Countrey are called *Chelonophagi*; that is, Eaters of Tortoises, for they live upon them: and these people are said to be in the East-part of *India*. And in *Carmania* the people are likewise so called. And they do not only eat the flesh of them, but also cover their houses with their shells, and of their abundance, do make them all manner of vessels. *Pliny* and *Solinus* write, that the Sea-tortoises of *India* are so big, that with one of them they cover a dwelling Cottage. And *Strabo* saith, they also row in them on the waters, as in a Boat.

The Island of *Serapis* in the Red-sea, and the farthest Ocean Islands, toward, the East of the Red-sea, hath also very great Tortoises in it; and every where in the Red-sea they so abound, that the people there do take them and carry them to their greatest Marts and Fairs to sell them, as to *Raphis*, to *Ptolemais*, and the Island of *Dioscorides*, whereof some have white and small shells. In *Lybia* also they are found, and in the night time they come out of their lodgings to feed, but very softly, so as one can scarcely perceive their motion.

And of one of these *Scaliger* telleth this story. One night (saith he) as I was travelling, being overtaken with darknesse and want of light, I cast about mine eyes to seek some place for my lodging, safe and secure from wilde Beasts; and as I looked about, I saw (as I thought) a little hill or heap of earth, but in truth it was a Tortoise, covered all over with mosse: upon that I ascended and sate down to rest, whereupon after a little watching I fell asleep, and so ended that nights rest upon the back of the Tortoise. In the morning, when light approached, I perceived that I was removed far from the place, whereon I first chose to lodge all night; and therefore rising up, I beheld with great admiration the face and countenance of this Beast, in the knowledge whereof, (as in a new nature) I went forward, much comforted in my wearisome journey.



The description of the Tortoise and several parts thereof now followeth to be handled. Those creatures (saith *Pliny*) which bring forth or lay eggs, either have feathers as Fowls, or have scales as Serpents, or thick hides as the Scorpion, or else a shell like the Tortoise. It is not without great cause that this shell is called *Scutum*, and the Beast *Scutellaria*, for there is no buckler and shield so hard and strong as this is. And *Palladius* was not deceived when he wrote thereof, that upon the same might safely passe over a Cart-wheel, the Cart being loaded. And therefore in this the Tortoise is more happy then the Crocodile, or any other such Beast.

Albertus writeth that it hath two shels, one upon the back, the other on the belly, which are conjoyned together in four places, and by reason of this so firm a cover and shell, the flesh thereof is dry and firm, also long lasting, and not very easie or apt to putrefaction. This shell or cover is smooth, except sometimes when it is grown old, it hath mosse upon it, and it never casteth his coat in old age, as other creeping things do. In the head and tail it resembleth a Serpent, and the great Tortoises have also shels upon their heads like a shield, yet is the head but short, and the aspect of it very fearful, until a man be well acquainted therewith. And by reason of the hardnesse of their eyes, they move none but the neather eye-lid, and that without often winking. The liver of it is great, yet without any bloud. It hath but one belly without division, and the liver is always foul, by reason of the vitious temperature of the body. The milt is exceeding small, coming far short of the bodies proportion.

Beside, the common nature of other thick-hided creatures. It hath also reins, except that kinde of Tortoise called *Lutaria*, for that wanteth both reins and bladder; for by reason of the softnesse of the cover thereof the humor is over-fluent; but the Tortoise that bringeth forth eggs hath all inward parts like a perfect creature: and the females have a singular passage for their excrements, which is not in the males. The eggs are in the body of the belly, which are of a party-colour like the eggs of Birds.

Their stones cleave to their loins, and the tail is short, but like the tail of a Serpent.

They have four legs, in proportion like the legs of Lizards, every foot having five fingers or divisions upon them, with nails upon every one. And thus much for the several parts.

They

They are not unjustly called *Amphibia*, because they live both in the water and on the land, and in this thing they are by *Pliny* resembled to Beavers: but this must be understood of the general, otherwise the Tortoises of the land do never dare come into the water: and those of the water can breath in the water, but want respiration, and likewise they lay their Egges and sleep upon the dry land. They have a very slow and easie pace; and thereupon *Pavus* calleth it *Tardigrada*, and also there is a Proverb, *Testudineus incessus* for a slow and soft pace, when such a motion is to be expressed. The Tortoise never casteth his coat, no not in his old age. The voyce is an abrupt and broken hissing, not like to the Serpents, but much more loud and diffused. The male is very salacious and given to carnal copulation, but the female is not so; for when she is attempted by the male, they fight it out by the teeth, and at last the male overcometh, whereat he rejoyceth as much as one that in a hard conflict, fight, or battail, hath won a fair Woman; the reason of this unwillingnesse is, because it is exceeding painful to the female. They engender by riding or covering one another. When they have laid their Egges, they do not sit upon them to hatch them, but lay them in the Earth, covered, and there by the heat of the Sun is the young one formed, and cometh forth at due time without any further help from his Parents.

They are accounted crafty and subtle in their kinde, for subtilnesse is not only ascribed to things that have a thin bloud, but also to those that have thick skins, hides, and covers, such as the Tortoise and Crocodile have. The Tortoise is an enemy to the Partridge, as *Philes* and *Ælianus* write: Also the Ape is as fraid thereof, as it is of the Snail: and to conclude, whatsoever enemy it hath, it is safe enough as long as it is covered with his shell, and clingeth fast to the earth beneath; and therefore came the proverb, *Oikos philos, oikos aristos*. That house which is ones friend, is the best house.

The Poets give a fabulous reason, why the Tortoise doth ever carry his house upon his back, which is this: They say, that on a time *Jupiter* had all living creatures to a banquet or Marriage feast, and thither they all came at the time appointed, except the Tortoise: and she at last also appeared at the end of the feast when the meat was all spent: whereat *Jupiter* wondered, and asked her why she came no sooner? Then it answered him, *Oikos philos, oikos aristos*; at which answer *Jupiter* being angry, adjudged her perpetually to carry her house on her back, and for this cause they fable, that the Tortoise is never separated from her house.

Flaminius the Roman dissuading the *Acheans* from attempting the Island of *Zacynthus*, used this argument; and so afterward *T. Livius*. *Ceterum sicut Testudinem, ubi collecta in suum tegumen est, tutam ad omnes ictus vidi esse: ubi exierit partes aliquas, quodcumque nudavit, obnoxium atque infirmum habere: Haud dissimiliter vobis Achæi, clausis undique maris, quod intra Peloponnesum est, termino, ea & jungere vobis, & juncta tueri facile: si semel aviditate plura amplectendi hinc excedatis, nuda vobis omnia quæ extra sunt & exposita ad omnes ictus esse.* Thus saith *Pliny*. That is to say, Even as when the Tortoise is gathered within the compasse of her shell, then is it safe and free from all strokes, and feeleth no violence, but whensoever she putteth forth a limb or part, then is it naked, infirm, and easie to be harmed: so is it with you *Acheans*, for by reason of the inclosed seat of *Peloponnesus* within the Straights of the Sea, you may well winde all that together, and being conjoyned, as well defend it: But if once your avidous and covetous mindes to get more, appear and stretch it self beyond those limits, you shall lay open your naked infirmity and weaknesse, to all force, blows, and violence whatsoever. Wherefore the Tortoise careth not for flies, and men with good armour care not much for light and easie adversaries.

Alciatus hath a witty Emblem of a Tortoise to expresse a good hufwife, and that the fame of her vertues, spreadeth much further then either beauty or riches.

*Alma Venus, quænam hæc facies? quid denotat illa
Testudo, molli quam pede diva premis?*

Me sic effinxit Phidias, sexumque referri

Which may be Englished thus;

Loves holy God, what means that ugly face?

What doth that Tortoise signifie indeed,

Which thou O God I desse under soft foot dost pace?

Declare what means the same to me with speed:

Fæmineum nostra jussit ab effigie,

Quodq; manere domi, & tacitas debet esse puellas,

Supposuit pedibus talia signa meis.

Such is the shape that Phidias did me frame,

And bade me go resemble Womankind,

Te teach them silence, and in house remain,

Such pictures underneath my feet you finde.

There is a manifold use of Tortoises, especially of their cover or shell, and likewise of their flesh, which cometh now to be handled. And first of all, the ancient ornaments of Beds, Chambers, Tables, and Banqueting houses, was a kinde of artificial work, called *Carvilius*, and this was framed in gold and silver, brasse and wood, Ivory and Tortoise-shells; but, *Modo luxuria non fuerit contenta ligno, jam lignum emi testudinem facit*: That is to say, Ryot not contented, sought precious frames of wood; and again, the use of wood caused Tortoise-shells to be deerly bought, and thereof also complained the Poet *Juvenal*, where he saith;

*Nemo curabat
Rivalis in Oceani fluctu testudo nataret
Clarum Trojugenis factura & nobile fulcrum.*

Yyy 2

In

In English thus;

Then none did care for Tortoise in the Ocean flood,
To make the noble beds for Trojans blood.

We have shewed already that there are certain people of the East called *Chelophagi*, which live by eating of Tortoises, and with their shells they cover their houses, make all their vessels, row in them upon the water, as men use to row in boats, and make them likewise serve for many other uses.

But as concerning the eating of the flesh of Tortoises, the first that ever we read that used this ill diet, were the *Amazons*, according as *Cælius Rhod*: and other Authors writeth. Besides, *Aloysius Cadamustus* affirmeth, that he himself did tast of the flesh of a Tortoise, and that it was white in colour, much like unto Veal, and not unpleasant. But *Rasis* is of a clean contrary opinion, condemning it for very unsavory, and unwholesome, because the taste and temperament thereof is betwixt the Land and the Water, it being a Beast that liveth in both Elements. And in eating hereof the *Grecians* have a proverb, *Chelones kreas he phagein, he me phagein*: That is, either eat Tortoise flesh, or eat it not. Meaning that when we eat it, we must eat nothing else, and therefore must be filled sufficiently only with that kinde of meat; For to eat little, breedeth fretting in the belly, and to eat much is as good as a purgation, according to the observation of many actions, which being done *frigide & ignaviter*, that is, coldly and slothfully to halves, do no good, but being done *acriter & explicate*, earnestly and thoroughly bring much content and happinesse.

But I marvel why they are used in this age, or desired by Meat-mongers, seeing *Apicius* in all his Book of Variety of Meats, doth not mention them; and I therefore will conclude the eating of Tortoises to be dangerous, and hateful to Nature it self, for unlesse it be taken like a Medicine, it doth little good, and then also the Sawces and decoctions or compositions that are confected with it, are such as do not only qualifie, but utterly alter all the nature of them, (as *Stephanus Aquæus* hath well declared in his French discourse of Frogs and Tortoises.) And therefore to conclude this History of the Tortoise, I will but recite one riddle of the strangenesse of this Beast which *Tertullian* out of *Pavinius* maketh mention of, and also in Greek by *Mascopulus*, which is thus translated.

Animal peregrinæ naturæ, sine spiritu spiro, geminis oculis retro juxta cerebrum, quibus ducibus antrorsum progredior. Super ventre caruleo pergo, sub quo venter latet albus, apertus & clausus. Oculi non aperiuntur, neq; progredior, donec venter intus albus vacuus est. Hoc saturato, oculi apparent insignes, & pergo ad iter: Et quanquam mutum varias edo voces: That is to say, I am a living creature, of a strange nature, I breath without breath, with two eye behinde, neer my brains do I go forward, I go upon a blew belly, under which is also another white, open and shut, my eyes never open, I go forward until my belly be empty, when it is full, then they appear plain and I go on my journey, and although I am mute or dumb, yet do I make many voyces. The explication of this riddle, will shew the whole nature of the Beast, and of the Harp called *Chelys*. For some things are related herein of the living creature, and some things again of an Instrument of Musick made upon his shell and cover. And thus much for the Tortoise in general, the Medicines I will reserve unto the end of this History.

Of the TORTOISE of the Earth, whose shell is only figured.

These Tortoises which never come in water, either sweet or Salt, clear or muddy, are called by *Grecians*, *Chelone Chersate*; by the *Latines*, *Chersina*, and *Testudines*, *Terrestres*, *Sylvestres*, and *Montane*; and by *Nicander*, *Orine*; and the French peculiarly *Tortue des Bois*, a Tortoise of the wood.

Sirabo.

These are found in the Desarts of *Africa*, as in *Lybia* and *Mauritania*, in the open fields, and likewise in *Lydia* in the Corn-fields, for when the Plough-men come to plough their land, their shares turn them out of the earth upon the furrows as big as great Glebes of land. And the shells of these the Husbandmen burn on the land, and dig them out with Spades and Mattocks, even as they do Worms among places full of such vermine.

The *Hill-Parthenius*, and *Soror* in *Arcadia*, do yeeld many of these land Tortoises. The shell of this living Creature is very pleasantly distinguished with divers colours, as earthy, black, blewish, and almost like a Salamanders. The liver of it is small, yet apt to be blown or swell with winde, and in all other parts they differ not from the common and vulgar general prefixed description.

Plinius.

These live in Corn-fields, upon such fruits as they can finde; and therefore also they may be kept in Chests or Gardens, and fed with Apples, Meal, or Bread without Leaven. They eat also Cockles, and Worms of the earth, and Three-leaved-grasse. They will also eat Vipers, but presently after



after they eat Origan, for that herb is an antidote against Viperine poyson for them, and unlesse they can instantly finde it, they die of the poyson. The like use it is said to have of Rue, but the Tortoises of the sandy Sea in *Africk* live upon the fat, dew, and moistnesse of those Sands. They are ingendered like other of their kinde, and the males are more venereous then the females, because the female must needs be turned upon her back, and she cannot rise again without help: wherefore many times the male after his lust is satisfied, goeth away, and leaveth the poor female to be destroyed of Kites, or other adversaries: their natural wisdom therefore hath taught them to prefer life and safety before lust and pleasure. Yet *Theocritus* writeth of a certain herb, that the male Tortoise getteth into his mouth, and at the time of lust turneth the same to his female, who presently upon the smell thereof, is more enraged for copulation then is the male, and so giveth up her self to his pleasure without all fear of evil, or providence against future danger: but this herb neither he nor any other can name. They lay Egges in the earth, and do not hatch them, except they breath on them with their mouth, out of which at due time come their young ones. All the Winter time they dig themselves into the earth, and there live without eating any thing, insomuch as a man would think they could never live again, but in the Summer and warm weather they dig themselves out again without danger.

The Tortoises of *India* in their old and full age change their shells and covers, but all other in the World never change or cast them. This Tortoise of the earth is an enemy to Vipers, and other Serpents, and the Eagles again are enemies to this, not so much for hatred as desirous thereof for Physick, against their sicknesses and diseases of nature; and therefore they are called in *Greek* *Chelonophagoi astoi*, Tortoise-eating Eagles: for although they cannot come by them out of their deep and hard shells, yet they take them up into the air, and so let them fall down upon some hard stone or Rock, and thereupon it is broken all to peeces, and by this means dyed the famous Poet *Aeschylus*, which kinde of fate was foretold him, that such a day he should die: wherefore to avoid his end, in a fair Sun-shine clear day he sate in the fields, and suddenly an Eagle let a Tortoise fall down upon his head which brake his skull, and crushed out his brains; whereupon the *Grecians* wrote:

Aeschulo graphontē, epiptōke Chelone.

Which may be Englished thus;

Aeschylus writing upon a rock,

A Tortoise falling, his brains out knock.

The use of this land Tortoise, are first for Gardens, because they clear the Gardens from Snails and Worms: out of the *Arcadian* Tortoises they make Harps, for their shells are very great, and this kinde of Harp is called in *Latine* *Testudo*, the inventor whereof is said to be *Mercury*, for finding a Tortoise after the falling in of the River *Nilus*, whose flesh was dried up, because it was left upon the Rocks, he struck the sinews thereof, which by the force of his hand made a musical sound, and thereupon he framed it into a Harp, which caused other to imitate his action, and continue that unto this day.

These Tortoises are better meat then the Sea or Water Tortoises: and therefore they are preferred for the belly; especially they are given to Horses, for by them they are raised in flesh, and made much fatter. And thus much shall suffice for the Tortoise of the earth.

Of the TORTOISE of the Sweet-water.

Pliny maketh four kindes of Tortoises, one of the Earth, a second of the Sea, a third called *Lutaria*, and the fourth called *Smysa*, living in Sweet-waters, and this is called by the *Portugals*, *Cagado*; and *Gagado*; the *Spaniards*, *Galapag*; and the *Italians*, *Gaiandre de aqua*. There are of this kinde found in *Helvetia*, neer to *Zurick*, at a Town called *Andelsinge*: but the greatest are found in the River *Ganges* in *India*, where their shells are as great as tuns, and *Damasceen* writeth, that he saw certain Embassadors of *India*, present unto *Augustus Caesar* at *Antiochia*, a Sweet-water Tortoise, which was three cubits broad. They breed their young ones in *Nilus*. They have but a small Milt; and it wanteth both a bladder and reins. They breed their young ones and lay their Egges on the dry land, for in the water they die without respiration: therefore they dig a hole in the earth wherein they lay their Egges, as it were in a great ditch, of the quantity of a Barrel, and having covered them with earth, depart away from them for thirty days; afterwards they come again and uncover their Eggs, which they finde formed into young ones, those they take away with them into the water: and these Tortoises at the inundation of *Nilus* follow the Crocodiles, and remove their nests and egges from the violence of the floods.

There was a magical and superstitious use of these Sweet-water Tortoises against Hail, for if a man take one of these in his right hand, and carry it with the belly upward round about his Vineyard, and so returning in the same manner with it, and afterward lay it upon the back, so as it cannot turn on the belly, but remain with the face upward, all manner of Clouds should passe over that place and never empty themselves upon that Vineyard. But such Diabolical and foolish observations were not so much as to be remembered in this place, were it not for their sillinesse; that by knowing

them; men might learn the weaknesse of humane wisdom when it erreth, from the Fountain of all science and true knowledge (which is Divinity) and the most approved operations of Nature: And so I will say no more in this place of the Sweet-water Tortoise.

Of the TORTOISE of the Sea.

IT were unproper and exorbitant to handle the Sea-tortoise in this place, were it not because it liveth in both elements, that is, both the water and the land, wherefore seeing the Earth is the place of his generation, as the Sea is of his food and nourishment, it shall not be amisse nor improper (I trust) to handle this also among the Serpents and creeping things of the earth.

Pliny calleth this Sea-tortoise *Mus Marinus*, a Mouse of the Sea, and after him *Albertus* doth so likewise. The *Arabians* call it *Asfulbasch*; and the *Portugals*, *Tartaruga*; and in *Germany*, *Meeischiltkrott*, which the common Fisher-men call the Souldier, because his back seemeth to be armed and covered with a shield and helmet, especially on the fore-part: which shield is very thick, strong, and triangular, there being great veins and sinews which go out of his neck, shoulders, and hips, that tie on and fasten the same to his body.

His fore-feet being like hands, are forked and twisted very strong, and with which it fighteth and taketh his prey, and nothing can presse it to death except the frequent strokes of Hammers. And in all their members except their quantity, and their feet, they are much like the Tortoises of the earth, for otherwise they are greater, and are also black in colour. They pull in their heads as occasion is ministred to them, either to fight, feed, or be defended, and their whole shell or cover seemeth to be compounded of fine Plates. They have no teeth, but in the brims of their beaks or or snouts are certain eminent divided things like teeth, very sharp, and shut upon the under lip like as the cover of a Box, and in the confidence of the sharp prickles, and the strength of their hands and backs, they are not afraid to fight with men.

Their eyes are most clear and splendent, casting their beams far and near, and also they are of white colour, so that for their brightnesse and rare whitenesse, the Apples are taken out and included in Rings, Chains, and Bracelets. They have reins which cleave to their backs, as the Reins of a Bugle or Ox. Their feet are not apt to be used in going, for they are like to the feet of Seals or Sea-calves, serving in stead of Oars to swim withall. Their legs are very long, and stronger in their feet and nails, then are the claws of the Lion.

Brasavolus.

They live in Rocks and the Sea-sands, and yet they cannot live altogether in the water, or on the land, because they want breathing and sleep, both which they perform out of the Water: yet *Pliny* writeth, that many times they sleep on the top of the water, and his reason is, because they lie still unmoveable, (except with the Water) and snort like any other Creature that sleepeth, but the contrary appeareth, seeing they are found to sleep on the land, and the snorting noise they make is but an endeavour to breath, which they cannot well do on the top of the water, and yet better there then in the bottom.

Aristotle.

They feed in the night-time, and the mouth is the strongest of all other Creatures, for with it they crush in pieces any thing, be it never so hard, as a stone or such things: they also come and eat grasse on the dry land. They eat certain little Fishes in the Winter time, at which season their mouth is hardest, and with these Fishes they are also baited by men, and so taken. *Pausanias* writeth, that in *Africa* that there are Maritime Rocks called *Scelestæ*, and there dwelleth among a creature called *Scynon*, that is *Zytyron*, a Tortoise, and whatsoever he findeth on those Rocks which is stranger in the Sea, the same he taketh and casteth down headlong. They engender on the Land, and the female resisteth the copulation with the male, until he set against her a stalk or stem of some tree or plant. They lay their Eggs and cover them in the earth, planing it over with their breasts, and in the night-time they sit upon them to hatch them. Their Eggs are great, of divers colours, having a hard shell, so that the young one is not framed or brought forth within lesse compasse then a year, (as *Aristotle* writeth) but *Pliny* saith thirty days.

Oppianus.
Plinius.

And for as much as they cannot by Nature, nor dare for accident long tarry upon the land: they set certain marks with their feet upon the place where they lay their Eggs, whereby they know the place again, and are never deceived. Some again say, that after they have hid their Eggs in the earth forty days, the female cometh the just fortieth day, not failing of her reckoning, and uncovereth her Eggs wherein she findeth her young ones formed, which she taketh out as joyfully as any man would do Gold out of the earth, and carryeth them away with her to the water. They lay sometimes an hundred Eggs, and sometimes they lay fewer, but ever the number is very great.

Plutarch.

There is upon the left side of *Hispaniola*, a little Island upon the Port *Beata*, which is called *Alus Bellus*, where *Peter Martyr* reporteth strange things of many creatures; especially of the Tortoises, for he writeth, that when they rage in lust for copulation, they come on shore, and there they dig a ditch wherein they lay together three or four hundred Eggs, being as great as Goose Eggs, and when they have made an end, they cover them with sand and go away to the Sea, not once looking after them: but at the appointed time of Nature, by the heat of the Sun, the young Tortoises are hatched, engendered, and produced into light without any further help of their parents.

Great is the courage of one of these, for it is not afraid to set upon three men together, but if it can be turned upward upon the back, it is made weak and unresistible. And if the head be cut off

looff and severed from the body, it dieth not presently, nor closeth the eyes, for if a man shake his hand at it, then will it wink, but if he put it neer, it will also bite if it can reach it. If by the heat of the Sun their backs grow dry, they also grow weak and inflexible, and therefore they hasten to the water to remollifie them, or else they die within short time: and for this cause this is the best way to take them. In the hottest day they are drawn into the deep, where they swim willingly with their backs or shells above the water, where they take breath, and in continuance, the Sun so hardeneth them, that they are not able to help themselves in the water, but they grow very faint and weak, and are taken at the pleasure of the Fisherman.

Ælianus.

They are also taken on the tops of the water after they return weary from their feeding in the night-time, for then two men may easily turn them on their backs, and in the mean while another casteth a Snare upon them and draweth them safely to the land. In the *Phanician Sea* they are taken safely without danger, and generally where they may be turned on their back, there they can make no resistance, but where they cannot, many times they wound and kill the Fishermen, breaking the nets asunder, and let out all the other Fish included with them.

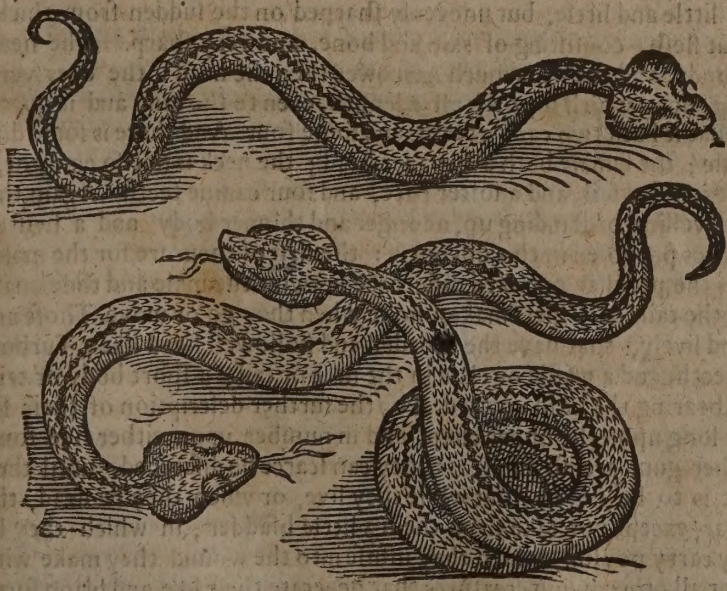
Belonius writeth, that there be of these Sea-tortoises two kinds, one long, the other round, and both of them breath at their Noses, because they want gills, and the long ones are most frequent about the Port *Totra* in the Red-sea, whose cover is variable, for the males shell is plain and smooth underneath, and the females is hollow. The *Turks* have a kinde of Tortoise, whose shell is bright like the *Chrysolite*, of which they make hafts for Knives of the greatest price, which they adorn with plates of gold. In *Fambolus*, an Island of the South, there are also found certain Monsters or living crea-

Boemus.

tures, which are not very great, yet are they admirable in Nature, and in the vertue of their blood. Their bodies are round and like the Tortoise, having two crosse lines over their backs, in the ends of which is an eye and an ear at either side, so as they seem to have four ears, the belly is but one, into which the meat passeth out of the mouth. They have feet round about, and with them they go both backward and forward. The vertue of their blood is affirmed to be admirable: for whatsoever body is cut asunder and put together, if it be sprinkled with this blood during the time that it breatheth, it counteth as before.

The ancient *Troglodytes* had a kinde of Sea-tortoise, which they call *Celtium*, which had horns unto which they fastened the strings of their harps; these also they worshipped and accounted very holy. Yet some think that they might better be called *Celutim* then *Celtium*; but I think *Hermolaus* doth better call them *Chelutim* apotes *Chelutur*, which signifieth both a Tortoise and their broad breasts: and with their horns they help themselves in swimming. *Albertus* also maketh mention of a Tortoise called *Barchora*; but it is thought to be a corrupt word from *Ostra Codermus*. These Sea-Tortoises are found sometimes to be eight cubits broad, and in *India* with their shells they cover houses, and such use they also put them unto in *Taprobana*, for they have them fifteen cubits broad. And thus much for all kinde kinde of Tortoises.

of the VIPER.



Notwithstanding the asse-
veration of *Suessanus*, who
will needs exclude the Viper
from the Serpents, because a
Serpent is called *Ophis*, and the
Viper *Echis*, yet I trust there
shall be no reasonable man that
can make exception to the
placing of this living creature
among Serpents; for that great
learned man was deceived in
that argument, seeing by the
same reason he might as well
exclude any other, as the Snake,
Dragon, Scorpion, and such
like, who have their peculiar
names, besides the generall
word *Ophis*, and yet might he
also have been better advised,
then to affirm a Viper not to be

Mercurialis.

called a Serpent: for even in *Aristotle* whom he expoundeth and approveth, he might have found in his fifth Book of *Gen. animal.* and the last Chapter, that the Viper is recorded, *Inter genera opheon*: that is, Amongst the general kinds of Serpents, although as we shall shew afterward, it differeth from most kinds of Serpents, because it breedeth the young one in his belly, and in the Winter time lyeth in the Rocks, and among stones, and not in the earth.

The *Hebrews* as it appeareth, *Esa. 59.* and *Job 6.* call it *Aphgnath*, and according to *Munster* *Aphgnaim* plurally for Vipers, because of the variety of colours, wherewithal they are set all over. The

Arabians,

Arabians from the Greek word *Tbereon*, signifying all kinde of wide Beasts, do also call it *Tbiron*, and that kinde of Viper whereof is made the Triacle, they call a *Alafasrai*, and *Alphai*: they also call it *Eosman*, (as *Leonicens* writeth.) Beside it is called *Alphe*, which seemeth to be derived of the Hebrews, and *Afir*, which may likewise be conjectured to arise from the Greek word *Ophis*. The Greeks call the Male peculiarly and properly *Echis*, and the Female *Echidna*, and it is a question whether the vulgar word among the Grecians at this day *Ochendra*, do not also signifie this kinde of Serpent. *Belonius* thinketh, that it is corrupted of *Echidna* the female Viper. The Germans have many words for a Viper, as *Brandt Schlangen*, *Natet-otter*, *Heck nater*, and *Viper-nater*. The French, *une Vipere*; the Spaniards, *Bivora*, and *Bicba*; the Italians, *Vipera*, *Marasso*, *Scurio*, and sometimes *Scorzoni*, although *Scorzo*, and *Scorzoni*, be general words in Italy for all creeping Serpents without feet, and that strike with their teeth.

There is also about the word *Maraso* some question, although *Leonicens* decideth the matter, and maketh it out of all Controversie, and *Rhodiginus* thinketh it a very significant word derived from the people *Marsi*, because they carryed about Vipers. The Mountebanks do also call *Suffili*, from *Sibila*, the hissing voyce which it maketh. Some will have *Nepa* to be also a Viper, yet we have shewed that already to signifie a Scorpion.

The Grecians say, that the Viper is called *Echidna*, *para to ecchein in eaute ten gonem achri thanaton*: because to her own death she beareth her young one in her belly; and therefore the Latines do also call it *Vipera*, *quasi Vi pariat*: because it dyeth by violence of her birth or young: and they attribute unto it venom and pestilence, and generally there are few Epithets which are ascribed to the Serpent, but they also belong unto this. There is a precious stone *Ecbites*, (greenish in colour) which seemeth to be like a Viper, and therefore taketh name from it. Also an herb *Echine*, like *Scammony*, and *Echidmon* or *Viperina*. In Cyrene there are Mice, which from the similitude of Vipers are called *Echenate*. *Echion* was the name of a man, and *Echionide* and *Echionii*, of people; and *Echidnon* a City beside the Sea *Ægeum*: Also the Eagle which by the Poets is fained to eat the heart of *Prometheus*, is likewise by them said to be begotten betwixt *Typhon* and *Echidna*, and the same *Echidna* to be also the Mother of *Chimera*: which from the Navel upward was like a Virgin, and downward like a Viper, of which also *Diodorus Siculus*, and *Herodotus* telleth this story:

When *Hercules* was driving away the Oxen of *Geryon* he came into *Scythia*, and there fell asleep, leaving his Mares feeding on his right hand in his Chariot, and so it happened by divine accident, that while he slept they were removed out of his sight and strayed away from him. Afterward he awaked, and missing them, sought all over the Countrey for them; at last he came unto a certain place, where in a Cave he found a Virgin of a double natured proportion, in one part resembling a Maid, and in the other a Serpent, whereat he wondered much, but she told him, that if he would lie with her in carnal copulation, she would shew him where his Mares and Chariot were: whereunto he consented, and begat upon her three Sons, famous among Poetical Writers: Namely, *Agathyrus*, *Gelonus*, and *Scythus*: but I will not prosecute either the names, or these fables any further, and so I will proceed to the description of Vipers. The colour of Vipers is somewhat yellowish, having upon their skin many round spots, their length about a cubit, or at the most three palms. The tail curled, at the end very small and sharp, but not falling into that proportion equally by even attenuation, growing by little and little, but unevenly sharped on the sudden from thickness to thinness. It is also without flesh, consisting of skin and bone, and very sharp. The head is very broad, compared with the body, and the neck much narrower then the head: the eyes very red and flaming, the belly winding, upon which it goeth all in length, even to the tail, and it goeth quickly and nimbly: some affirm that it hath two canine teeth, and some four. And there is some difference betwixt the male and female; the female hath a broader head; the neck is not so eminent, a shorter and thicker body, a more extended tail, and a softer pace, and four canine teeth. Again, the male hath a narrower head, a neck swelling or standing up, a longer and thinner body, and a swifter pace or motion, so that in the Pictures proposed in this discourse: the first of them are for the male, and the last for the female & this is the peculiar outward difference betwixt the male and the female Vipers. *Avicen* saith besides, that the tails of Vipers make a noise when they go or move. Those are taken to be the most generous and lively, that have the broadest and hollowest head like a Turbot, quick and lively eyes, two canine teeth, and a gristle or claw in the nose or tail; a short body or tail, a pale colour, a swift motion, and bearing the head upward. For the further description of their several parts. Their teeth are very long upon the upper chap, and in number upon either side four, and those which are upon the neather gum are so small, as they can scarce be discerned, until they be rubbed and pressed; but also it is to be noted, that while they live, or when they be dead, the length of their teeth cannot appear, except you take from them a little bladder, in which they lie concealed. In that bladder they carry poyson, which they infuse into the wound they make with their teeth: they have no ears, yet all other living creatures that generate their like, and bring forth out of their bellies have ears, except this, the Sea-calf, and the Dolphin, yet in stead hereof, they have a certain gristly cave or hollownesse in the same place where ears should stand. The womb and place of conception (saith *Pliny*) is double, but the meaning is, that it is cloven as it is in all females, (especially Women and Cows.) They conceive Egges, and those Egges are contained neer their reins or loins. Their skin is soft, yeelding also to any stroke; and when it is fleyed off from the body, it stretcheth twice so big as it appeared while it covered the living Serpent: To conclude, *Phylologus* writeth, that their face is somewhat like the face of a man, and from the navel

Navel it resembleth a Crocodile, by reason of the small passage it hath for his egestion which exceedeth not the eye of a Needle. It conceiveth at the mouth. And thus much for the description in general.

There is some difference among this kind also, according to the distinction of place wherein they live, for the Vipers in *Æthiopia* are all over black like the men, and in othes Countreys they differ in colour, as in *England*, *France*, *Italy*, *Greece*, *Asia*, and *Ægypt*, as writeth *Bellonius*. There is scarce any Nation in the World wherein there are not found some Vipers. The people of *Amyta* which were of the *Grecian* blood, drove away all kind of Serpents from among them, yet they had Vipers which did bite mortally; and therefore could never be cured, being shorter then all other kinds of Vipers in the World. Herodotus.

Likewise in *Arabia*, in *Syagrus*, the sweet Promontory of *Frankincense*, the *European* Mountaines, *Seiron*, *Pannonia*, *Aselenus*, *Corax*, and *Ripheus*: the Mountaines of *Asia*, *Ægages*, *Bucarteron*, and *Cercaphus*, abound with Vipers. Likewise *Ægypt*, and in all *Africa* they are found also, and the *Africans* affirm, (in detestation hereof) that it is not so much *Animal*, as *Malum nature*: that is, A living Creature, as evill of Nature: To conclude, they are found in all *Europe*. Some have taken exceptions to *Crete*, because *Aristotle* writeth, that they are not found there, but *Bellonius* affirmeth, that in *Crete* also he saw Vipers which the Inhabitants call by the name of *Cheudra*, which seemeth to be derived from the *Greek* *Echidna*. At this day it is doubted whether they live in *Italy*, *Germany*, or *England*, for if they doe, they are not knowne by that name: yet I verily think that we have in *England* a kinde of yellow Adder which is the Viper that *Bellonius* saw here, for I my selfe have killed of them, not knowing at that time the difference or similitude of Serpents, but since I have perceived to my best remembrance that the proportion and voyce of it did shew that it was a Viper. The most different kinds of Vipers are found in *Ægypt* and *Asia*.

Concerning the quantity, that is the length and greatnesse of this Serpent, there is some difference, for some affirme it to be of a cubit in length, and some more, some lesse. The Vipers in *Europe* are very small, in comparison of them in *Africa*, for among the *Troglodytes* (as writeth *Ælianus*) they are fifteen cubits long, and *Nearchus* affirmeth as much of the *Indian* Vipers; *Aristobulus* also writeth of a Viper that he saw one, which was nine cubits long, and one hand breadth: & some again (as *Strabo*) affirm, that they have seen Vipers of sixteen Cubits long, and *Nicander* writeth thus of the Vipers of *Asia*;

*Fert Asia ultra tres longis qui tractibus ulnas
Se tendunt, rigidum quales Bucarteron, atque
Ardus Agagus, & celsus Cercaphus intra
Se multos refouet.*

In English thus;

*Such as Asia yeelds in length, as are three elles,
In Bucarteron steepy rough, these Vipers flourish,
Hard Agagus and high Cercaphus cels,
Within their compasse many such do nourish.*

Others there be in *Asia* sixteen foot long, and some there be again twenty, as in the *Golden Castiglia*, where their heads are like the heads of Kids. There be some that make difference betwixt *Echis* and *Echidna*, because one of them when it biteth, causeth a convulsion, and so doth not the other, and one of them maketh the wound look white, the other pale, and when the *Echis* biteth you shall see but the impression of two teeth, and when the *Echidna* biteth you shall see the impression of more teeth. But these differences are very idle, for the variety of the pain may arise from the constitution of the body, or the quantity of the poyson, and so likewise of the colour of the wound, and it is already set down, that the *Echis* or Male Viper hath but two Canine teeth, but the other, namely, the *Echidna* hath four: thus saith *Nicander*; Scaliger.
Cardan.
Ælianus.

*Masculus emittit, notus color, ipse caninos
Binos perpetuo monstrat, sed femina plures.*

Which may be englished thus;

*The Male two canine teeth, whose colour well is known,
But in the Female more continually are shown.*

But yet the Male hath beside his Canine teeth, as many as hath the Female: and besides the Male is known from the Female, as the same *Nicander* writeth, because the Female when she goeth, draweth her tail as though she were lame, but the Male more manlike and nimble, holdeth up his head, stretcheth out his tail, restraineth the breath of his belly, setteth not up his Scales (as doeth the Female;) and besides, draweth out his body at length.

The Meate of these Vipers are green Hearbes, and also sometimes living Creatures: and namely, *Galen*. Hore-fies, *Cantharides*, *Pithiocampes*, and such other things as they can come by, for these are fit and convenient meat for them. *Aristotle* writeth, that sometimes also they eat *Scorpions*, and in *Arabia* they not onely delight in the sweet juyce of *Balsam*, but also in the shadow of the same. But above all kinds of drink, they are most insatiable of wine. Sometime they make but little folds, and sometime greater,

Aristotle. greater, but in their wrath their eies flame, they turn their tails and put forth their double tongue. In the winter-time as we have said already, they live in the hollow Rocks, yet *Pliny* affirmeth, that then also they enter into the earth, and become tractable and tangible by the hands of man, for in the cold weather they are nothing so fierce as they are in the hot, and in the Sommer also they are not at all times alike furious, but like to all other Serpents. They are most outrageous in the Canicular daies, for then they never rest, but with continual disquiet move up and down till they are dead or emptied of their poyson, or feel an abatement of their heat. Twice in the year they cast their skins, that is to say, in the Spring, and in the Autumn: and in the Spring time when they come out of their hole or winter lodgings, they help the dimnesse of their eye-sight by rubbing their eyes upon fennel. But concerning their copulation and generation, I find much difference among writers: wherefore in a matter so necessary to be known, I will first of all set down the opinion of other men, aswell Historians as Poets, and then in the end and conclusion, I will be bold to interpose my own judgment for the better information of the Reader. *Herodotus* in his *Thalia* writeth, that when the Vipers begin to rage in lust, and desire to couple one with another, the Male cometh and putteth his head into the mouth of the female, who is so insatiable in the desire of that copulation, that when the male hath filled her with all his seed-genital, and so would draw forth his head again, she biteth it off, and destroyeth her husband, whereby he dieth and never liveth more: but the female departeth and conceiveth her young in her belly, who every day according to natures inclination, grow to perfection and ripenesse, and at last in revenge of their fathers death, do likewise destroy their mother, for they eat out her belly, and by an unnatural issue come forth into the light of this world: and this thing is also thus witnessed by *Nicander*;

*Cum durum fugiens morsu ignescentis echidnae
Frendit echis, vel ubi servente libidinis aestu
Saevo dente sui refecat caput illa mariti:
Ast ubi post vegetam ceperunt pignora vitam,*

*Jam propinqua adsunt maturi tempora partus,
Indignam chari mortem ulciscencia patris,
Erosa misera nascuntur matris ab alvo.*

In English thus;

*When the male Viper gnasheth, avoyding females bite,
Whose fiery rage is all on ardent lust,
Yet when he burnes for copulation right,
Her cruel tooth doth Husband head off crush.*

*But yet alas, when seeds begins to live,
And birth of young ones ripen in her womb,
Then they for Fathers death a full revenge do give,
Eating forth their wretched mothes strong.*

Vnto this agreeth *Galen*, *Isidore*, *Plutarch*, *Aelianus*: and *Lucan* who writeth;

Viperei coeunt abrupto corpore nati

That is to say:

*The geniture of Vipers blood
Engender, breaking bodies good.*

Pliny agreeth with the residue for the death of the Male in carnal copulation, but he differeth in this, about the Female, affirming that when the young Vipers grow ripe and perfect in their Mothers belly, she casteth forth every day one for three daies together, (for her number is sometimes twenty) at last the other, impatient of delay, gnaw out her guts and belly, and so come forth, destroying their mother: And here is no great difference, for in the sum and destruction of Father and Mother they all agree, and *Saint Jerom*, *Saint Basil*, and *Horus* do agree and subscribe to the truth of these opinions. Thus we have shewed the opinions of the Ancient and first Writers: now it followeth that we should likewise shew the opinions of the latter Writers, which I will performe with as great brevity and perspicuity as I can. *Pierius* therefore writeth, that in his time there were Learned men desirous to know the truth, who got Vipers, and kept them alive, both Males and Females, by shutting them up safe where they could neither escape out, nor do harme, and they found that they engendred, brought forth, and conceived like other Creatures, without death or ruine of Male and Female.

Amatus Lusitanus also writeth thus. The Male and Female Viper engender by wreathing their tails together, even to the one half of their body, and the other half standeth upright, mutually kissing one another. In the Male there is a genital member in that part beneath the Navel, where they embrace, which is very secret and hidden, and against the same is the Females place of conception, as may appear manifestly to him that will look after the same; and therefore all the Philosophers and Physitians have been deceived, that have wrote they have conceived at their mouth, or that the Male perished at the time of engendering, or the Female at the time of her delivery. Thus saith *Amatus*.

Theophrastus he likewise writeth in this manner; The young Vipers do not eate out their way, or open with their teeth their Mothers belly, nor (if I may speak merrily) make open their own passage by breaking up of the doors of their Mothers womb, but the womb being narrow, cannot contain them; and therefore breaketh of it own accord: and this I have proved by experience, even as the same falleth out with the fish called *Acus*: and therefore I must crave pardon of *Herodotus*, if I affirm his relation of the generation of Vipers to be meerly fabulous. Thus far *Theophrastus*.

Apollonius

Apollonius also writeth, that many have seen the old Vipers licking their young ones like other Serpents.

Thus have I expressed the different judgements of sundry Authors both new and old touching *Cælius*. the generation of Vipers, out of which can be collected nothing but evident contradictions, and unreconcilable judgements, one mutually crossing another. So as it is impossible that they should be both true, and therefore it must be our labour to search out the truth, both in their words, and in the conference of other Authors. Wherefore to begin, thus writeth *Aristotle*. The Viper amongst other Serpents, almost alone bringeth forth a living creature, but first of all she conceiveth a soft egge of one colour, above the egges lieth the young ones folded up in a thin skin, and some-times it falleth out, that they gnaw in sunder that thin skin, and so come out of their mothers belly all in one day, for she bringeth forth more then twenty at a time.

Out of these words of *Aristotle*, evilly understood by *Pliny* and other ancient Writers, came that error of the young Vipers eating their way out of their mothers belly, for in stead of the little thin skin which *Aristotle* saith they eat thorough, other Authors have turned it to the belly, which was clean from *Aristotles* meaning. And another error like unto this, is that wherein they affirm, that the Viper doth every day bring forth one young one, so that if she hath twenty young ones in her belly, then also she must be twenty dayes in bringing of them forth.

The words of *Aristotle* from whence this error is gathered, are these, *Τέλει de en mia emera kathon, Τέλει de pleo be eikosi*, which are thus translated by *Gaza*, *Parit enim singulos diebus singulis, plures quam viginti numero*: That is to say, she bringeth forth every day one, more then twenty in number. But this is an absurd translation, and agreeth neither with the words of *Aristotle*, nor yet with his mind, for his words are these: *Parit autem una die singulos, parit autem plus quam viginti numero*. That is to say in *English*, she bringeth forth every one in one day, and she bringeth forth more then twenty: so that the sense of these words shall be; that the Viper bringeth forth her young ones severally, one at a time, but yet all in a day.

But concerning her number, neither the Philosopher, nor yet any man living, is able to define and set it down certain, for they vary, being sometimes more, and sometimes fewer, according to the nature of other living creatures. And although the Viper do conceive egges within her, yet doth she lay them after the manner of other Serpents, but in her body they are turned into living Vipers, and so the egges never see the sun, neither doth any mortal eye behold them, except by accident in the dissection of a female Viper when she is with young. I cannot also approve them that do write, that one, namely the Viper, among all Serpents, bringeth forth her young ones alive, and perfect into the world, for *Nicander* and *Grevinus*, do truly affirm, with the constant consent of all other Authors, that the horned Serpent called *Cerastes*, of which we have spoken already, doth likewise bring forth her young ones alive. And besides, *Herodotus* writeth of certain winged-Serpents in *Arabia*, which do bring forth young ones as well as Vipers, and therefore it must not be concluded with apparent falshood, that onely the Viper bringeth her young ones perfect into the world.

The like fable unto this, is that general conceit of the copulation together, betwixt the Viper and the Lamprey; for it is reported that when the Lamprey burneth in lust for copulation, she forsaketh the waters, and cometh to the Land, seeking out the lodging of the male Viper, and so joyneth herself unto him for copulation. He againe on the other side, is so tickled with desire hereof, that forsaking his own dwelling and his own kind, doth likewise betake himself unto the Waters and Rivers sides, where in an amorous manner, he hisseth for the Lamprey, like as when a young man goeth to meet and call his Love; so that these two creatures, living in contrary elements, the earth and the water, yet meet together for the fulfilling of their lusts in one bed of fornication. Upon which *Saint Basil* writeth in this manner: *Vipera infestissimum animal eorum quæ serpunt cum muræna congregitur, &c.* that is to say, the Viper a most pernicious enemy to all living creeping things, yet admitteth copulation with the Lamprey, for he forsaketh the Land, and goeth to the water-side, and there with his hissing voyce, giveth notice to the other of his presence, which she hearing, instantly forsaketh the deep waters, and coming to the Land, suffereth herself to be imbraced by that venomous beast. Also *Nicander* writeth thus thereof in his verses.

*Fama est, si modo vera, quod hæc sua pascua linquat,
Atque eat in siccum cogente libidine litus,
Et cum Vipereo coiens serpente gravetur,*

Which may be englished thus;

*Fame saith (if it be true) that she her feed forsakes,
I mean the shore, and goes upon dry land,
Where for her lust the Viper-male she takes,
In fleshy coiture to be her husband.*

But this opinion is vaine and fantastick, as *Pliny* and divers others have very learnedly proved, for the Lamprey cannot live on the Land, nor the Viper in wet places, besides the waters: and therefore, besides the impossibility in nature, it is not reasonable that these will hazard their own lives, by forsaking their own elements for the satisfaction of their lusts, there being plenty of either kinds to work upon, that is to say, both of female Vipers in the Land, to couple with the male, and male Lampreys in the water, to couple with the female.

Although

Although I have else-where confuted this error, yet I must here again remember that which is said already. The occasion of this fable is this; the male Lamprey is exceeding like a Viper, for they want feet, and have long bodies, which some one by chance seeing in copulation with his female, did rashly judge it to be a Serpent because of his likenesse, as afore-said; and therefore they devised a name for it, calling it *Myrus*, which some have made a kind of Viper, and others a Snake: but *Andreas* hath notably proved against *Archelaus*, that this *Myrus* neither is nor can be any other then the male Lamprey: and so I will conclude, that neither Vipers ingender with Lampreys, nor yet the female Vipers kill the male in copulation, or that the young ones come into the world by the destruction of their dams.

Ælianus.

In the next place we are to consider, the antipathy and contrariety that it observeth with other creatures, and the amity also betwixt it and others. First of all therefore it is certain and well known, what great enmity is betwixt man-kind and Vipers, for the one alwaies hateth and feareth the other: wherefore, if a man take a Viper by the neck, and spit in his mouth, if the spittle slide down into his belly, it dieth thereof, and rotteth as it were in a consumption. Vipers also are enemies to Oxen, as *Virgil* writeth, *Pestis acerba bonum pecorique aspergere virus*: that is, a sharp plague of Oxen, casting his poyson upon all other Cattel. They are also enemies to Hens and Geese, as *Columella* writeth, wherefore in ancient time they were wont to make sure walls for the custody of their pullen against Vipers. They are likewise enemies to the Dormouse, and they hunt very greedily after their young ones, whereof *Epiphanius* in a discourse against *Origen* writeth thus; When the Viper cometh to the nest of a Dormouse, and findeth there her young ones, she putteth out all their eies, and afterwards feedeth them very fat, yet killeth every day one, as occasion of hunger serveth; but if in the mean time a man, or any other creature do chance to eate of those Dormice, whose eies are so put out by the Viper, they are poysoned thereby. And this is a wonderfull work in nature, that neither the little Dormice receive harme by the poyson, but grow fat thereby, nor yet the Viper be poysoned herself while she eateth them, and yet a man or beast which is a stranger unto it, dieth thereof.

Strabo.

All kind of Mice are as much afraid of Vipers, as they be of Cats, and therefore whensoever they heare the hissing of a Viper, instantly they look to themselves and their young ones. There is a kind of harmelesse Serpents called *Parea*, whereof I have spoken before in his proper place, which is an enemy unto Vipers, and that same which is harmelesse unto men, killeth them. *Albertus* also telleth a story of a Viper that climbed up into a tree, to the nest of a Magpye, where-upon the old one was sitting, this poore Pye did fight with the Viper, untill the Viper took her fast by the thigh, so as she could fight no more, yet she ceased not to chatter and cry out to her fellowes to come and help her, whereupon the male Pye came, and seeing his female so griped by the Viper, he ceased not to peck upon his head untill the braines came out, and so the Viper fell down dead. This story is also alledged by *Cardan*.

The Scorpions and the Vipers are enemies one to another, for at Padua a Viper and a Scorpion (for the trial of this matter) were both included in a vial, where they continued fighting a little while, but at last they both died by one anothers poyson. The Tortoyse of the earth is also an enemy to the Viper, and the Viper to it, wherefore if it can get Origan, or wild-Savory, or Rue, it eateth thereof, and then is nothing afraid to fight with the Viper, but if the Tortoyse can find none of these, then they die incontinently by the poyson of the Viper, and of this there hath been triall, as both *Aristotle* and other Authors affirm.

Ælianus.

And as there is this contrariety betwixt Vipers and other living creatures, so there is betwixt them and Plants of the earth, and this blessing God in nature hath bestowed upon many beasts, that when they feel themselves to be hurt by one herb, they know another to cure them; as for example, Garlick is poyson to the Viper, and therefore having tasted thereof she dieth, except she eat some Rue. A Viper being strook with a Reede once, it amazeth her, and maketh her senselesse, but being strook the second time, she recovereth and runneth away: and the like is reported of the Beech-tree, saying that it stayeth the viper, and she is not able to go from it. But most marvailous is the antipathy betwixt the Viper and the Yew-tree, for it is reported by *Mercuriall*, that if you lay fire on the one side, and a peece of Yew on the other side, and then place a viper in the middle betwixt them both, she will rather chuse to runne thorow the fire, then to go over the branches of Yew.

Galen.

The Viper is also afraid of Mustard-seed, for it beeing laid in her path, she flieth from it, and if she taste of it, she dieth. There is an herbe called *Arum*, if the hands or body of a man be anointed with the juyce of the root thereof, the viper will never bite him; the like is reported of the juyce of Dragons, expressed out of the leaves, fruit or root. It is also said, that if a viper do behold a good Smaradge, her eyes will melt and fall out of her head. But above all other plants in the world, the Viper is most delighted with Vetches, and the Savyne tree, for in Italy (as *Cardan* writeth) there was once seen a great number of Vipers about a Savyne Tree, and many of them did climbe up and down upon that Tree.

*Discorid.
Rasus,*

There is no love betweene this Serpent and other creatures, save onely to his own kind, and therefore there are two things memorable in the nature of this savage Serpent, the one is the love of the male to the female, and the other of the female to her young ones. It is reported by Saint *Ambrose* and Saint *Basill*, that when the male misseth the female, he seeketh her out very diligently, and with a pleasing and flattering noyse, calleth for her, and when he perceiveth she approacheth, he casteth up

up all his venome, as it were in reverence of matrimonial dignity. The female on the other side, maketh much of her young ones, licking and adorning their skins, fighting for them unto death, both against men and beasts. For this occasion and some medicinal uses, the Arabians counted Vipers holy Serpents, for by reason (as we have said already) that the Vipers do haunt the Balsom-trees, whereof there be plenty in that countrey, they hold them for holy keepers of that precious fruite; wherefore they never kill them, but at the time of year when the Balsom is ripe, they come unto the trees bearing in their hands two wooden rules, which they smite one against another, by the noise whereof the Vipers are terrified and driven away, and so the Trees are freed for the Inhabitants to take the fruite thereof at their pleasure.

Now forasmuch as we read that *Porus* King of India sent many great Vipers for a gift unto *Augustus*, it is profitable to expresse the meanes whereby Vipers are safely taken without doing any harme. Wherefore *Aristotle* writeth, that they are very much desirous of Wine, and for that cause the Country-people set little vessels of wine in the hedges and haunts of Vipers, whereunto the Vipers coming, easily drink themselves tame, and so the Hunters come and kill them, or else so take them, as they are without danger of harm. *Pliny* reporteth, that in ancient time, the *Marsians* in *Lybia* did hunt Vipers, and never received harm of them, for by a secret and innate vertue, all Vipers and serpents are afraid of their bodies, as we have already shewed in other places. Yet *Galen* in his discourse to *Piso*, writeth that the *Marsians* in his time had no such vertue in them, as he had often tried, save onely that they used a deceit or sleight to beguile the people, which was in this manner following.

Long after the usual time of hunting Vipers, they use to goe abroad to take them, when there is no courage nor scant any venom left in them, for the Vipers are then easily taken if they can be found: and them so taken, they accustome to their own bodies, by given them such meats as doth evacuate all their poison, or at the least-wise doth so stop up their teeth, as it maketh the harm very small; and so the simple people being ignorant of this fraud, and seeing them apparently carrying Vipers about them, did ignorantly attribute a vertue to their natures, which in truth did not belong unto them. In like manner there were (as hath already in another place been said) certain Jugglers in *Italy*, which did boast themselves to be of the lineage of Saint *Paul*, who did so deceitfully carry themselves, that in the presence and sight of many people, they suffered Vipers to bite them without any manner of harm.

Others again when they had taken a Viper, did drown her head in mans spittle, by vertue whereof the Viper began to grow tame and meek. Besides this, they made a certain oyntment which they set forth to sale, affirming it to have a vertue against the biting of Vipers, and all other Serpents, which oyntment was made in this manner. Out of the oyl of the seed of Wild-radish, of the roots of Dragons, the juyce of *Dassadil*, the brain of a Hare, leaves of Sage, Sprigs of Bay, and a few such other things, whereby they deceived the people, and got much money: and therefore to conclude, I cannot find any more excellent way for the taking and destroying of Vipers then that which is already expressed in the general discourse of Serpents.

We do read that in *Egypt* they eat Vipers and divers other Serpents, with no more difficulty then they would do *Eeles*, so do many people both in the Eastern and western parts of the New-found-lands. And the very self-same thing is reported of the Inhabitants of the Mountaine *Athos*, the which meat they prepare and dresse on this manner. First they cut off their heads and also their tails, then they bowel them and salt them, after which they see the them or bake them, as a man would see the or bake *Eeles*, but sometimes they hang them up and dry them, and then when they take them down again, they eat them with Oyl, Salt, Anyseeds, Leeks and water, with some such other observations. Whose diet of eating Vipers I do much pity, if the want of other food constrain them thereunto; but if it arise from the insatiable and greedy intemperancy of their own appetites, I judge them eager of dainties, which adventure for it at such a market of poyson.

Now it followeth that we proceed to the handling of that part of the Vipers story, which concerneth the venom or poison that is in it, which must begin at the consideration of temperament of this Serpent. It is some question among the learned, whether a Viper be hot or cold; and for answer hereof it is said, that it is of cold constitution, because it lieth hid, and almost dead in the Winter-time, wherein a man may carry them in his hands without all hurt or danger: and unto this opinion for this self same reason, agreeth *Galen*. *Mercuriall* maketh a treble diversity of constitution among Serpents, whereof the first sort are those that with their wound do infuse a mortal poyson that killeth instantly; and without delay: a second sort are those that kill, but more leisurely, without any such speed: and the third are those whose poyson is more slow in operation then is the second, among which he assigneth the Viper. But although by this slowness of operation he would inforce the coldness of the poyson, yet it is alwaies to be considered, that the difference of Vipers, and of their venom, ariseth from the place and region in which they are bred, and also from the time of the yeer wherein they bite and wound, so that except they fortune to hurt any one during the time of the Canicular daies, (in which season their poyson is hottest, and themselves most full of spirit) the same is but weak, and full of deadness. And again it is to be considered, whether the Viper harm in her mood and fury, for anger doth thrust it forth more fully, and causeth the same to work more deadly.

Likewise the Region wherein they live, begetteth a more lively working spirit in the Serpent, and therefore before all other, the Vipers of Numidia are preferred, because of the heat of that Country. Also their meat causeth in them a difference of poyson, for those that live in the woods and eat Toades, are not so vigorous or venomous, but those that live in the mountaines, and eat the roots of certain herbs, are more poysonful and deadly. And therefore Cardan relateth a story, which he saith was told him by a *Phenician*, that a Mountain-Viper chased a man so hardly, that he was forced to take a tree, unto the which when the Viper was come, and could not climbe up to utter her malice upon the man, she emptied the same upon the Tree, and by and by after, the man in the tree dyed, by the favour and secret operation of the same.

Pausanias.

But of the *Arabian* Vipers which haunt the Balsom-trees, I have read, that if at any time they bite, they onely make a wound, like the pricks of yron, voide of poison, because while they suck in the juyce of that tree, the acerbity and strength of the venom is abated. About the Mountain *Helicon* in Greece, the poison also of Vipers is infirme and not strong, so that the cure thereof is also ready and easie. But yet for the nature of Vipers poison, I can say no more then *Wolphius* hath said, that it is of it self and in it selfe considered, hot: and his reason is, because he saw a combat in a glasse betwixt a Viper and a Scorpion, and they both perished one by the others poison. Now he saith that it is granted, the Scorpion to be of a cold nature, and his poison to be cold; therefore by reason of the antipathy whereby one died by the malice of another, it must needs follow that the Viper is hot, and her poison likewise of the same nature. For a Serpent of a cold nature, killeth not another of the same nature, nor a hot Serpent, one of his own kind, but rather it falleth out clean contrary, that the hot kill those that are cold, and the cold Serpents the hotter.

*Pliny.
Nicander.*

All the Vipers that live neer the waters, are of more mild and meek poison then others. If there be any such, but I rather beleve there be none, but that the same Author which wrote of the Vipers of the water, did intend Serpents of the water. But concerning the poison of Vipers, there is nothing reported more strange then that of *Vincentius Belluacensis*, who writeth, that if a man chance to tread upon the reynes of a Viper unawares, it paineth him more then any venome, for it spreadeth it self over all the body incurably. Also it is written, that if a woman with child chance to passe over a Viper, it causeth her to suffer abortment; and the Mushrooms or Toade-stooles which grow neere the dennes and lodgings of Vipers, are also found to be venomous.

The Scythians also do draw an incurable and unresistable poison out of Vipers, wherewithall they anoint the sharp ends of their darts and arrowes when they goe to warre, to the end that if it chance to light upon their adversary, he may never any more do them harm. They make this poison in this manner. They observed the littering places and time of the Vipers, and then with strength and Art, did take the old and young ones together, which they presently killed, and afterward suffered them to lie and rot, or soake in some moist thing for a season: then they took them and put them into an earthen pot filled with the bloud of some one man; this pot of mans bloud and Vipers they stopped very close, so as nothing might issue out at the mouth, and then buried or covered it all over in a dunghil, where it rotted and consumed a few daies, after which they uncovered it again, and opening it, found at the top a kind of watery substance swimming, that they take off, and mixe it with the rotten matter of the Viper, and hereof make this deadly poison.

We have shewed already, that there is outwardly a difference betwixt the biting wound of the Male and the Female Viper, for after the male hath bitten, there appeareth but two holes, but after the Female hath bitten, there appeareth foure; and this is also a great deal more deadly then is the biting of the male, according to the verses of *Nicander* where he saith,

*Porro ex Vipereo quod noris germine pejor
Famina: quæ veluti majori accenditur ira,
Sic vehemente magis fert noxia vulnera morsu,*

*Et plus gliscenti se cauda & corpore volvit,
Vnde citatior hæc illos mors occupat artus.*

Which may be englished thus;

*But of the Vipers brood the female is the worst,
Which as it were, with greater wrath doth burn: (curst
And therefore when she bites, makes bodies more ac-*

*Inflicting hurtful wounds, to vehemency turnd.
Rowling her bulke and taile more oft about,
Whereby a speedier death doth life rid out.*

But *Avicen* is directly contrary to this opinion, and saith, that as the bitings of male Dragons are more exitiall and harmful then are the females, so is it betwixt the biting of the male and female Viper. This contrarietie is thus reconciled by *Mercuriall*, namely, that it is true, that the wounds which the female maketh by her biting, being well considered, is more deadly then the wounds which the male giveth: yet for the proportion of the poison which the male venteth into the wound he maketh, it is more deadly then is the females: so that with respect of quantity: they both say true which affirm either the one or the other. But which soever is the greatest, it skilleth not much, for both are deadly enough, as may appear by the common symptoms and signes which follow, and also death.

Mathiolus reporteth a history of a Country-man, who as he was mowing of grasse, chanced to cut a Viper clean asunder about the middle, or some-what nearer the head, which being done, he stood still, and looked upon the dying dissevered parts a little while, at last, either presuming that it had no power left to hurt, or thinking it was dead, he took that part in his hand where-upon the head was: the angry Viper feeling his adversaries warm hand, turned the head about, and bit his

his finger with all the rage, force, and venom that it had left, so that the blood issued out. The man thus bitten for his boldnesse, did hastily cast it away, and began to suck the wound, putting his hand to his mouth, which when he had done but a little while, he suddenly fell down dead.

The like story unto this, is related by *Amatus Lusitanus* of another, which more boldly then wisely, did adventure to take a live Viper into his hand upon a wager of money, but as the other, so this paid for his rashnes, for the angry Viper did bite him as did the former, and he sucked his wound as did the Country-man, and in like manner fell down dead.

By both which examples, we may well see the danger of the Vipers poison, so that if once it come into the stomach, and touch the open passage where the vitall parts goe in and out, it never stayeth long but death followeth. Wherefore *Aetius* saith well, that sometimes it killeth within the space of seven houres, and sometimes again within the space of three daies, and that respite of time seemeth to be the longest, if remedie be not had with more effectual speed.

The signes or effects of the Vipers biting, are briefly these, first there issueth forth a rotten matter, sometimes blou dy, and sometimes like liquid or molten fatnesse, sometimes again with no colour at all, but all the flesh about the sore swelleth, sometimes having a red, and sometime a pale hiew or colour upon it, issuing also forth a corrupted matter. Also it causeth divers little blisters to arise upon the flesh as though the body were all scorched over with fire, and speedily after this, followeth putrefaction and death.

The pain that cometh by this Serpents wounding, is so universal, that all the body seemeth to be set on fire, many pitiful noyses are forced out of the parties throat by sense of that pain, turning and crackling of the neck, also twinkling and wrying of the eyes, with darknesse and heavinesse of the head, imbecillity of the loynes, sometimes thirsting intolerably, crying out upon his dry throate, and again sometimes freezing at the fingers ends, at least so as he feelerh such a pain. Moreover, the body sweating a sweat more cold then snow it self, and many times vomiting forth the bilious tumors of his owne belly. But the colour going and coming is often changed, now like pale lead, then like black, and anon as green as the rust of brasse, the gums flow with blood, and the Liver it self falleth to be inflamed, sleepinesse and trembling possesseth the body and several parts, and difficulty of making urine, with Feavers, neezing and shortnesse of breath.

These are related by *Aetius*, *Aegineta*, *Grevinus* and others, which work not alwaies in every body generally, but some in one, and some in another, as the humors and temperament of nature doth lead, and guide their operation. But I marvel from whence *Plato* in his *Symposium* had that opinion, that a man bitten and poisoned by a Viper, will tel it to none, but onely to those that have formerly tasted of that misery: for although among other effects of this poison, it is said that madness, or a distracted mind also followeth, yet I think in nature there can be no reason given of *Platoes* opinion, except he mean that the patient will never manifest his grief at all. And this howsoever also is confuted by this one story of *Grevinus*. There was (as he writeth) a certain Apothecary which did keep Vipers, and it happened one day as he was medling about them, that one of them caught him by his finger, and did bite him a little, so as the prints of his teeth appeared as the points of needles. The Apothecary onely looked on it, and being busied, either forgot, or (as he said afterward) felt no pain for an hours space: but after the hour, first his finger smarted and began to burn, and afterward his arm and whole body fell to be suddenly distempered therewith, so as necessity constraining him, and opportunity offering it self, he sent for a Physitian at hand, and by his good advise. (thorow Gods mercy) was recovered, but with great difficulty; for he suffered many of the former passions and symptoms before he was cured.

Therefore by this story, either *Plato* was in a wrong opinion, or else *Grevinus* telleth a fable, which I cannot grant, because he wrote of his own experience, known then to many in the world, who would quickly have contradicted it: or else if he had consented to the opinion of *Plato*, no doubt but in the relation of that matter, he would have expressed also that circumstance.

Thus then we have, as briefly and plainly as we can, delivered the pains and torments which are caused by the poison of Vipers; now therefore it followeth, that we also briefly declare the vertue of such Medicines, as we find to be applied by diligent and careful observations of many learned Physitians, against the venom of Vipers. First of all they write, that the general rule must be observed in the curing of the poison of Vipers, which is already declared against other Serpents: namely, that the force of their poison be kept from spreading, and that may be done either by the present extraction of the poison, or else by binding the wounded member hard, or else by cutting it off, if it be in finger, hand or foot.

Galen reporteth, that when he was in *Alexandria*, there came to the City a Countryman which had his finger bitten by a Viper, but before he came, he had bound his finger close to the palm of his hand, and then he shewed the same to a Physitian, who immediatly cut off his finger, and so he was cured. And besides he telleth of another country-man, who reaping of Corne, by chance with his sickle did hurt a Viper, who returned and did raze all his finger with her poisonfull teeth. The man presently conceiving his own peril, cut off his own finger with the same sickle, before the poison was spred too far, and so was cured without any other Medicine.

Sometime it hapneth that the bite is in such a part that it cannot be cut off, and then they apply a Hen cut in sunder alive, and laid to as hot as can be, also one must first wash and anoint his mouth with oyl, and so suck out the poison. Likewise the place must be scarified, and party fed and dieted with old Butrer, and bathed in milk or Seawater, and be kept waking, and made to walk up and down.

In Viper.

It were too long, and also needlesse, to expresse all the medicines which by naturall meanes are prepared against the poison of Vipers, whereof seeing no reasonable man will expect that at my hands; I will onely touch two or three cures by way of history, and for others, refer my Reader to Physitians, or to the Latine discourse of *Caronius*. In *Norcheria*, the country of that great and famous *Gentilis* who translated *Avicen*, there is a fountaine, into which if any man be put that is stung or bitten by a Serpent, he is thereof immediatly cured; which *Amatus Lusitanus* approveth to be very natural, because the continual cold water killeth the hot poison. The same Author writeth, that when a little maid of the age of thirteen yeeres, was bitten in the heel by a Viper, the legge being first of all bound at the knee very hard, then because the maid fell distract first he caused a Surgeon to make two or three deeper holes then the Viper had made, that so the poison might be the more easily extracted, then he scarified the place, and drew it with cupping-glasses, whereby was exhausted all the black blood, and then also the whole leg over, was scarified and blood drawn out of it, as long as it would run of it own accord. Then was a plaister made of Garlick, and the sharpest Onions roasted, which being mixed with Triacle, was laid to the bitten place. Also the maid drank three daies of Treacle in wine, and foure houres after a little broth made with Garlick.

The second day after the abatement of the pain, he gave her the juyce of Yew-leaves fasting, which he commendeth as the most notable Antidote in this kind, and so made a second plaister, which lay on three days more, and in the mean time she drank fasting every day that juyce of Yew-leaves, whereby her trembling and distracted estate was abated, but from the wounded place still flowed matter, and it looked black. Then the four next daies, the said matter was drawn out by a linnen cloth, wherein was Goates dung, powder of Lawrell, and *Euphorbium* in Wine, all mixed together, and afterward he made this ointment, which did perfectly cure her, *Rec*: of long *Aristolochii* two ounces, of Briony and Daffadil one ounce, of Galbanum and Myrrhe, of each one ounce, with a convenient quantity of oyle of Baies and Waxe. This applied to the bitten place in a linnen cloth, and tentures twice a day, did perfectly recover her health within a month.

Ambrosius Paracelsus cured himselfe, with binding his finger hard that was bitten, and applying to it Triacle dissolved in *Aqua vite*, and drunk up in lint or bumbast: and he adviseth in stead of old Triacle, to take Mithridate. *Gesner* saith, that he saw a maid cured of the eating of Vipers flesh, by being constrained to drink Wine abundantly. *Theophrastus* and *Asclepiades* do write, that many are cured by the sound of good Musick, as the like is already shewed, in the cure of the poison of the *Phalangium*: and no marvail, for *Ismenias* the Theban affirmeth, that he knew many in *Beotia*, that were cured of the Sciatica, by hearing of the musical sound of a good pipe.

Of the Medicines which may be made of the Viper.

THE eating of Vipers is an admirable remedy against the Leprosie. And being prepared after that sort as was mentioned immediatly before in the former Section, they are ministred to the sick person sitting in the sun, yet his head must be well covered or shadowed. Neither indeed to eat Vipers once alone, or twice is sufficient, but it must be done often, sith it is without danger, and moreover bringeth great commodity. And let the Vipers be new, and taken out of moist places, for those which are bred neer the Sea, are very thirsty and dry. The broth also of sod Vipers, is for such persons good supping meat.

The flesh of Vipers is in temperature apparantly hot and dry, and purgeth the whole body by sweat; here-upon many sore tormented with Leprosie, by eating and drinking them have been cured.

Averroes saith, the flesh of *Tyrus* clenseth Leprosie, because it driveth the matter thereof to the skin, and therefore they that drink it, fall first into the passion of *Tyria*, that is, the pilling of the skin, and after are cured of it.

Funamellus.

Chuse the Vipers of the Mountain, especially being white, and cut off their heads and tails at once very speedily, and then if the issue of blood be plentiful, and they continue alive, and wallow to and fro a long time, these are good. After their beheading, let them be made clean and sod, and let the diseased party eat of them, and of their broth.

And by the drinking of wine wherein a Viper dieth or liveth, certain have been cured accidentally, or by an intent to kill them.

Avicen.

Amatus.

The Leaper must first drink the broth of Vipers decocted, in manner as afore-said, then let him eat the flesh, no otherwise then as mutton or fowles, which daily men dine with, but fasting and in the morning this flesh must be eaten, half a Viper at once, and sometime a whole Viper, according to the strength of the party diseased. After the eating whereof, he must not eat or drink in the space of six houres: but if he doe sweat, it is most expedient that in his sweat he look to himself very carefully. And the skin is wont to flea off from the Leaper, as it usually befalleth Serpents.

Galen.

A man may easily see the flesh of Vipers to be hot and dry, when they are dressed as Eels. And that they purge the whole body thorow the skin, (thou mayest learne even by those things, which my self being a young man, had experience of in our Countrey of *Asia*, which thing severally and in order I shall relate.

A certain man infected with the disease which men call *Elephas*, that is, Leprosie, for a time conversed still with his companions, till by his company and conversation, some of them were infected with the contagion of the disease, and he now became lothsome to smell, and filthy to sight. Building therefore

therefore a cottage for him neer the Village, on the top of a bank, hard by a Fountain, there they place this man, and daily bring to him so much meat as was sufficient to sustain life. But at the rising of the Dog-star, when by good hap, Reapers reaped not far from that place, very fragrant Wine was brought for them in an earthen vessel: he that brought it, set it down neer the Reapers, and departed; but when the time was come that they should drink it, a young man taking up the vessel, that according to their manner having filled a bowl, he might mingle the Wine with a competent measure of water, he poured the Wine into the bowl, and together with the Wine fell out a dead Viper.

Wherefore the Reapers amazed thereat, and fearing lest if they drank it, they should receive some harm thereby, chose rather indeed to quench their thirst by drinking water: but when they departed thence, of humanity and in piety, gave the Wine to this Leper, supposing it to be better for him to die, then to live in that misery. Yet he when he had drunk it, in a wonderful manner was restored to his health: for all the scurf of his skin fell off as the shales of tender shelled creatures, and that which remained, appeared very tender, as the skin of Crabs or Locusts, when their outward shell is taken away.

Another example by a chance not much unlike, hapned in *Mysia*, a Countrey of *Asia*, not far from our City. A certain Leper went to wash himself in Spring-water, hoping thereby to receive some benefit. He had a maid-servant, a very fair young woman, importuned by divers sisters: to her the sick man committed both certain other things pertaining to the house, and also the store-house. When they therefore were gone into the room, to which a filthy place and full of Vipers adjoyned, by chance one of them fell into a Vessel of Wine there negligently left, and was drowned. The Maid esteeming that a benefit which Fortune offered, filled that Wine to her Master, and he drank it, and thereby in like sort as he that lived in the Cottage, was cured.

These are two examples of experiment by casual occasion. Moreover, I will adde also a third, which proceeded from our imitation. When one was sick of this disease, in minde more then the common sort Philosophical, and despising death, took it exceeding grievously, and said it were better once to suffer death, then to live so miserable a life: and drinking Wine so mingled with poyson, he became a Leper; and afterward we cured his Leprosie by our accustomed medicines.

Also a fourth man took Vipers alive, but that man had only the beginning of this disease; therefore our care and industry was very speedily to restore him to health: wherefore having let him bloud, and by a medicine taken away melancholy, we bad him use the Vipers he had taken, being prepared in a pot after the manner of Eels. And he was thus cured, the infection evaporating through the skin.

Lastly also, a certain other man very rich, not our Country-man, but of the middle of *Thracia*, admonished by a dream, came to *Pergamus*, where God commanded him by a dream, that he should daily drink the medicine which was made of Vipers, and outwardly he should anoint his body, and not many days after, his disease became the Leprosie: And again also, this infirmity was afterward cured by the medicines which God commanded.

Matthew Grady fed Chickins and Capons with the broth and flesh of Vipers mingled with bread, *Galen*. till they cast their feathers, purposing by them to cure the Leprosie.

A certain Noble-woman in this City, infected with this malady (the Leprosie) after divers unfortunate attempts of many, came to my hands, in whose cure, when generous medicines availed nothing, at last, with consent of her husband, I purposed to try her with Vipers flesh: whereupon a female Viper being cleansed and prepared after that sort as *Galen* prescribeth in his Book *De Theriaca*, mingling the flesh of the Viper with Galangal, Saffron, &c. I sod her very well: then I took a Chicken, which I commanded well to be sod in the juyce and broth of the Viper. And lest she should take any harm thereby, I first ministred unto her Mithridate, then the Chicken with the broth, by eating whereof she said she felt herself better: Which when I saw, I took another male Viper, whom I sod alone without adding any other thing, and the broth thereof I ministred to her three days, whereupon she began to sweat extreamly, the sweat I restrained by syrup of Violets and pure water. After six days, scales fell from her, and she was healed. Moreover, she soon after conceived a man-childe, having been barren before the space of forty years.

Antonius Musa a Physitian, when he met with an incurable Ulcer, he gave his patients Vipers to eat, and cured them with marvailous celerity. When the servants of *Craterus* the Physitian fell into a strange and unusual disease, that his flesh fell from his bones, and that he had proved many medicines which profited him nothing, he was healed by eating a Viper dressed as a fish.

Vipers flesh if it be sod and eaten, cleareth the eyes, helpeth the defects of the sinews, and representeth swellings. *Porphyrius*.

They say they that eat Vipers become lousie, which is not so, though *Galen* affirm it. Some adde them to live long who eat that meat, to wit, Vipers. *Isogorus* affirmeth the *Cirni*, a kinde of *Indians*, to live an hundred and forty years. Also he thinketh the *Ethiopians*, and *Seres*, and the Inhabitants of Mount *Athos* to be long lived, because they eat Vipers flesh. *Dioscorides*.

The *Seythians* cleave the head of the Viper betwixt the ears, to take out a stone, which they say *Pliny*. she devoureth when she is affrighted.

The heads of Vipers burnt in a pot to ashes, and after beaten together with the grossest decoction of bitter Lupines, & spread as an ointment on the temples of the head stayeth the continual rheume of the

the eys. Their ashes lightly beaten alone, and applyed as a dry medicine for the eys, greatly amendeth a dim sight.

Aetius.

The head of a Viper kept dry and burned, and after being dipped in Vinegar and applyed, cureth wilde fire.

Albertus.

The gall of the Viper doth wonderfully cleanse the eye, and offendeth not by poyson. It is manifest against the stinging of all Serpents though incurable, that the bowels of the very Serpents do help and avail; and yet they who at any time have drunk the liver of a sod Viper, are never stung of Serpents.

Pliny.

The fat of a Viper is effectual against the dimnesse and suffusions of the eyes, mixed with Rosin, Honey-attick, and a like quantity of old Oil.

For the Gowt they say it availeth much to anoint the feet with the fat of Vipers. Vipers fat healeth them that are burned.

Galen.

The flow of the Viper cureth the Ring-worm. The skin of the Viper beaten to powder, and laid upon the places where the hair is fallen, it doth wonderfully restore hair again.

Aetius.

Some extend and dry whole Vipers, and after beat them to powder, and minister them in drink against the Gowt. Others about the rising of the Dog-star, cut off the head and tail of Vipers, and burn the middle, then they give those ashes to be drunk 21. days, so much at a time as may be taken up with three fingers, and so cure the swelling in the neck. Joynts pained with the Gowt, are profitably anointed with Oyl wherein a Viper hath been sodden, for this cureth perfectly.

Leonell.

Faventin.

The making of the Oyl of Vipers, is described in these words; Take three or four Vipers, cut off their extreame parts, the head and the tail, in length four fingers, divide the rest into four gobbets, and put them in a pot open above and below, which pot must be put into another greater pot; then the mouth of them must be well shut with clay, that they breath not forth; then put them into a Caldron full of seething water, and there let them continue boiling two hours in those pots: then will distill a liquor from the Vipers, which were in the pot open above and below, with that Oily liquor anoint the members of the party molested with the Palsie, for by a secret property it cureth the grief of that disease.

Of Triacle and Trochusks of Vipers.

Galen.

Theriace or *Triacle*, not only because it cureth the venomous biting of Serpents, but also because the Serpents themselves are usually mingled in the making thereof, fitly is so named of both significations. Here also we will insert something concerning *Trochusks* of Vipers, which are mingled in the making of *Triacle*.

Triacle is very ancient, and hath always very carefully, and not without ambition, been refined by the Physitians, till *Andromachus Nero* his Physitian, added the flesh of Vipers, as the full accomplishment of this drug. The flesh of Vipers alone is mingled in *Triacle*, and not the flesh of other Serpents, because all the rest have something malignant more then Vipers. Vipers are thought to have lesse poyson in them then other Serpents.

Vipers for *Triacle* must not be taken at any time, but chiefly in the beginning of the Spring, when having left their dens, they come forth into the Sun-shine, and as yet have not poyson much offensive.

Avicen.

Take female Vipers, for we must take heed how we take male Vipers for the confection of *Antidotes*. For *Trochusks* all Vipers are not convenient, but those which be yellow, and of the yellow, the females only.

Galen.

Vipers great with young you must refuse, for being pregnant, they are more exasperate then themselves at other times.

Aetius.

Of Vipers be made *Trochiscs*, which of the *Grecians* are called *Theriaci*, four fingers being cut off at either end, and the inwards taken out, and the pale matter cleaving to the back-bone: the rest of the body must be boiled in a dish in water, with the herb *Dill*, the back-bone must be taken out, and fine flowre must be added. Thus these *Trochusks* being made, they must be dryed in the shade, apart from the Sun-beams, and being so prepared, they be of very great use for many medicines.

The use of *Triacle* is profitable for many things, for not only by his own nature it availeth against the biting of venomous creatures and poysons, but also it is found by experience, to help many other great infirmities. For it easeth the Gowt and pain in the joynts, it dryeth fluxes, it very much profiteth men molested with the Dropsie, leprous and melancholick persons, those that have *Quartane Agues*, or the Jaundise, those that have a weak voice, or that spet blood: those that are troubled with aking reins, with *Dysentery*, with the stone, with short breath, with passion of the liver or milt, with choler, with heart-ach, with the Falling-sicknesse. It driveth all kinde of Worms out of the bowels. It is the most soveraign remedy of the Plague.

Even to them that are in health the often use of it is wholesome, for it promiseth long life, and firm health, it consumeth excrements, it strengtheneth natural actions, it quickeneth the wit, and sharpeneth all the senses; it preserveth the body from poyson and other offences, and maketh it scarce subject to danger by such casualties; it begetteth good blood, it corrupteth the the air, and waters; neither alone doth it deliver from instant diseases, but also preserveth from those that be imminent.

OF EARTH-WORMS.

Doctor Bon-
hams discourse
of Worms.

Although there be many and sundry sorts of Worms which do contain in them some poysonous quality, yet for all that, at this time my purpose is to discourse especially of Earth-worms, whereof some are bred only in the earth, and others among plants, and in the bodies of living creatures. Worms of the earth are termed by *Plautus* and *Columella* *Lumbrici*, peradventure as being derived a *Lubricitate*. They are called also *Terræ Intestina* of the *Latines*, as well because they take their first beginning and breeding in the very bowels and inward parts of the Earth, as because being pressed and squeezed betwixt the fingers or otherwise, they do void forth excrements after the fashion of living beasts that have intrails in them. The *Greeks* call them *Ges enterā*; *Hesychius* calleth them *Embullos*; *Brunfelsius* *Otho* in his *Physick Lexicon* writeth, that they are usually called in the *Cilician* tongue *Gaphagas*, fetching the derivation of the word *parā Tō gāian phāgein*, for they feed upon earth. Of the *Englishmen* they are called *Meds*, and *Earth-worms*; of the *French*, *Vers de Terra*; of the *German*, *Eert wurm*, and *Erdwurmem*, *Melet*, *Ode Regenwurm*; of the *Belgians*, *Pier-wurm*, or *Rengenwurm*; of the *Italians*, *Lumbrichi*; of the *Spaniards*, *Lumbrizes*; of the *Polonians*, *Glissi*; of the *Hungarians*, *Galizsa*; of the *Arabians* they are called *Charatin*. *Manardus* in his second Book and 40. Epistle writeth, that in times past they were called *Onisculi*, and *Nisculi*.

There are found especially two sorts of Earth-worms, which are either greater or lesser. The greater Earth-worms are somewhat long, almost like in proportion and shape to those round Worms which do breed in mens bodies. They are half a foot long at least, and being stretched out in length they are found to be a foot long, they are of a whitish colour, and sometimes though seldom of a bloody hue: and for the most part they are all adorned with a chain about their necks, or rather they seem to wear a certain collar, wherein there is a little blood contained, and they lack eyes and eye-sight, as all sorts of Worms do.

They breed of the slime of the earth, taking their first being from putrefaction, and of the fat moisture of the same earth they are again fed and nourished, and into earth at last are resolved. When there falleth any showre of rain, then this kinde of Worm creepeth suddenly out of the earth, whereupon old *Euclio* in *Plautus* being very careful of his pot of Gold, speaketh aptly to his Drudge *Strobilus* in these words;

*Foras, foras Lumbrice, qui sub terra crepsisti modo,
Qui modo nusquam camparebas, nunc autem cum compares, peris.*

In Anularia.

Which may be Englished thus;

*Away, away thou Worm, late from the earth crept out,
Safe thou wast unseen, but seen, life fails I doubt.*

Here *Euclio* very properly termeth his Bondman *Strobilus*, a Worm, because not being espyed of his Master before, he suddenly came sneaking out from behind an Altar where he was hid, much like a Worm, that in moist weather issueth out of the ground. Those little heaps which are cast up and lie shining and wrinkled before the mouth or edges of their holes, I take them to be their miery excrements: for I could never as yet finde other excrementitious substance, droffy matter, or other feculency, but only bare earth in them, whose alimentary juyce and moisture being clean exhausted, they cast out the remainder, as an unprofitable burthen, nothing fit for nourishment. At the entrance of their doors, which yet steadeth them to some commodious use, for stopping and damming up their holes that the rain cannot so easily soke in, they are by these means safely defended from many annoyances and dangers, that otherwise might light upon them.

Their delight is to couple together, especially in a rainy night, cleaving together untill the morning: and in the same they are not folded round about one another like unto Serpents, but are straightly closed together side-wise, and thus do they remain sticking close the one to the other. They send forth a certain froathy slime or jelly when that they joyn together. They do ever keep the middle part of their body within the earth, I mean their hinder-parts; yea even in their mutual joyning together, neither are they at any time so fast glewed and closed, but with the least stirring and motion of the ground that can be imagined, they are straight-ways severed, withdrawing themselves speedily into their lurking holes. In rainy weather they are whiter a great deal then at other times, unless it be when they couple together, for then they appear very red. I my self about the midst of *April*, did once open a thick female Worm, and within the flesh I found a certain receptacle ringed round about, and filling up the whole cavity of the body, having a thin membrane or seat enclosing it, and in this aforesaid store-house the earth which she had fed on, and wherewith she was sustained, was held and contained. Her egges were found to be in a safe place above the receptacle, next to the mouth, there were many of them on a heap together, being all of a whitish colour.

The lesser Earth-worms for perspicuities sake, we with *Georgius Agricola* will name *Ascarides*: and these are often found in great numbers in Dung-hills, Mixens, and under heaps of stones. Of this sort some are red, (which we *Englishmen* call *Dogs*) and these be they that *Anglers* and *Fishers* do

do so much desire, for Fishes will greedily devour them, and for that end they with them do bait their hooks.

There be some others of these lesser Earth-worms that are somewhat of a blew colour, other some again are yellow only about the tail : whereupon they have purchased the name of Yellow-tails. Some again are ringed about the necks, withall very fat. Some others there be that have neither chains nor rings, and these commonly be more lank and slender of body then the former, and these I judge to be the males. These Worms do specially breed in Autumn, or at the fall of the leaf, by reason then there is but little moisture in the earth, and this is *Aristotles* opinion. Both kindes do live long in the water, but yet at length for want of sustenance there they die. They move from place to place with a kinde of reaching and thrusting forwards, for we cannot properly say that they do either rowl or tumble. *Olympio* in *Plautus* would go about to make a simple plain fellow believe that Worms did eat nothing but very earth, because he used these words to *Chalinus*;

Post autem nisi nisi ruri tu ervum comederis :
(for thus *Lambine* readeth)

Aut quasi Lumbricus terram.

In English thus;

*And afterward thou nought but Tares shalt eat,
Or else like Worms, the earth shall be thy meat.*

But by earth here in this place, he understandeth not pure earth, and such as is without any other mixture, but rather the fat, juyce, and moisture of the same. And this is the reason, that Earth-worms are not to be found in all soils alike, as in barren, sandy, stony, hard, and bare grounds, but only in fat, gravelly, moist, clammy and fertile. And for this respect *England* hath many Worms, because both Countrey and soil are very moist : and this moisture whereon they feed must not be salt, sowre, tart, or bitter, but sweet and toothsome : and therefore it is, that *Lucretius* in his second Book writeth, that Worms are bred most when it showreth, as in rainy seasons and moist weather.

*Quatenus in pullos animaleis vertier ova
Cerninus alinum, vermesq; effervere terras
Intempestivos cum putror coepit ob imbres.*

In English thus;

*Even as in time of rain, we see
Birds Egges their young forth hatch,
And Worms in heat of gendering be
When they clouds rot do catch.*

In *Theriaca*.

And to this opinion of *Lucretius*, *Nicander* seemeth to lean, when he affirmeth, that these Worms are nourished altogether of the earth that is moistened with long rain, or with some smoaking shower : for making a difference between the Serpent *Scytale*, and the *Amphisbena*, he thus writeth;

*Steiletes pachetos, tes elminthos pelei ogros
He cai entera ges eia trephei ombrimos aia. Id est.
Manubrii ligonis latitudo, longitudo vero ei que Lumbrico,
Aut terre intestinis, que imbris irrigata terra alit.*

That is to say;

*As broad as hafi of Spade, his length like little Worm,
And fed with dreary earth, moist by clouds and rainy form.*

The greater sort of Earth-worms live in the bowels of the earth, and most of all in an open free air, and where there is some repair and confluence of people. Every morning they withdraw themselves into their secret holes and corners within the ground, fencing the entrance of them with their excrements they have voided forth, in a fair and Sunshine weather : but in rainy weather they use to stop the mouths of their holes with some stalk or leaves of herbs or trees, being drawn a little inwardly into the earth. They feed upon the roots of those Plants which have any sweet juyce or moisture in them ; and therefore one may many times finde them amongst the roots of common Meddow-grasse : and they do live for the most part by the fat moisture of the earth, yet will they also greedily devour crums of white Bread unleavened, as I have often seen. In the Spring time, they first appear to come forth from the bowels of the earth, and all the Winter they lie hid in the ground, but yet if it be a very sharp and pinching cold Winter, and a dry Summer follow, for lack of moisture they do almost all die.

Besides, if you dig into the earth, or make a great motion, trampling, or hard treading upon the same, pouring in any strange liquor or moisture into the same, wherewithall they are unacquainted ; as for example, the juyce of Wall-nut-trees, the water wherein Hemp either seeds or leaves are

are soaked, or been laid to rot in common lye, and the like, they will issue out of the earth speedily, and by this means Fisher-men and Anglers do take them.

In like manner, they cannot endure Salt, or aromatical things, nor by their good will come neer them, for but touching any of these they will draw themselves on a heap, and so die. Worms are found to be very venomous in the Kingdom of *Mogor*, and the Inhabitants there do stand in so great fear of them, that they be destroyed and slain by them when they travel any journey; and therefore there they use ordinarily to carry Beesoms with them to sweep the plain ways for fear of further hurt. *Georgius Agricola* saith, that the little Worms called *Ascarides*, are not all of one colour: for some are white, some yellow (as I remembred a little before) and others again are very black: and many of these in tilling the earth are cast up by the plough, and many found in divers places all on a heap together. These be they that destroy corn-fields, for by sharing or biting, the roots the fruit dyeth.

Some say, that those Worms do most mischief to corn-grounds, which in some places of *Italy* the people term *Zaccarole*, and these are thick, almost a finger long, being naturally of a very cold constitution of body; and therefore they never use to come forth of the earth, but when the weather is passing hot, for then will they come forth, even to the surface of the ground, as it is notably set down, by the famous Poet *Homer*:

— à quo ceu fonte perenni,
Vatum Pietis labra rigantur aquis.

In English thus;

By whom, as by an everlasting filling Spring,
With Muses liquor, Poets lips are bath'd to sing.

Ovi. amo. l. 3.

Homer very fitly compareth *Harpalion* when he fell down dead amongst his companions, to a silly Worm, when as seeking to escape by flight out of the battel, he was wounded to death by *Meriones*, shooting an arrow or steel dart into his hanch or hip, his verses be these;

Meriones d' apiontos iei chalkere oiston,
Kai r'ebale gloucon kata dexion autar oistos,
Antikron kata kustin up' osteon exeperefen:
Ezomenos de cat' authi philon en chersin etairon,
Thumon apopneion, oste scolex epi gaia
Keito tacheis ecd' aimo melan ree, deue de gaian. *Id est.*
Meriones autem in abeuntem misit aream sagittam,
Et vulneravit coxam ad dextram, ac sagitta
E regione per vesicam sub os penetravit:
Residens autem illic charorum inter manus sociorum
Animam efflans, tanquam vermis super terram
Jacebat extensus: sanguisq; effluebat, tingebat autem terram.

That is to say;

But as he went away, behold *Meriones*
With brazen dart, did his right hip-bone wound,
Which neer the bladder did the bone through pierce:
In friends deer hands, he dyed upon the ground.
So stretcht upon the earth as Worm he lyed,
Black bloud out flowing, the same bedyed.

Mark well the slenderesse of this comparison, whereby he would give us to understand the base estate, and faint heart of *Harpalion*. For in other places having to write of noble, valiant, and magnanimous persons, when they were ready to give up the ghost, he useth the words *Sphadazein*, *Bruchein*, and the like to these, secretly insinuating to us, that they fell not down dead like impotent Cowards, or timorous abjects, but that they raged like Lions, with grinding and gnashing their teeth together, that they were blasted, benumbed, or suddenly deprived of all their lives and senses, &c. But here this pusillanimous and sordidous minded man *Harpalion*, seemed to be disgraced by his resembling to a poor Worm, being peradventure a man of so small estimation, and vile condition, as that no greater comparison seemed to fit him. It seemeth he was a man but of a faint courage, and very weak withall, because striking and thrusting with his Spear or Javellin at the Shield or Target of *Atrides*, he was not able to strike it through. But although this famous Poet doth so much seem to extenuate and debase a weak Worm: yet others have left us in their writings such commendations of their singular use and necessity, for the recovery of mans health (then which no earthly thing is more pretious) and have so nobilitated the worth of these poor contemptible Creatures, as I think, nature as yet hath scarce given any other simple Medicine, or experience found out by tract of time, nor knowledge of plants by long study hath revealed; nor *Paracelsus* by the Distillations of his Limbeck hath made known to the world, any secret endued with so many vertues and excellent properties against so many diseases: and for proof hereof, it shall not be beside the purpose to examine and describe the rarest and most probable that are recorded amongst the learned.

Earth-

Earth-worms do mollifie, conglutinate, appease pain, and by their terrestrial, and withall waterish humidity they do contemper any affected part, orderly and measurably moderating any excesse whatsoever. The powder of Worms is thus prepared: They use to take the greatest Earth-worm that can be found, and to wrap them in Mosse, suffering them there to remain for a certain time, thereby the better to purge and cleanse them from that clammy and filthy slimynesse, which outwardly cleaveth to their bodies. When all this is done, they presse hard the hinder-part of their bodies neer to the tail, squeezing out thereby their excrements, that no impurity so neer as is possible may be retained in them.

Thirdly, they use to put them into a pot, or some fit vessel with some white Wine, and a little salt, and straining them gently between the fingers, they first of all cast away that Wine, and then do they pour more Wine to them, and after the washing of the Worms, they must also take away some of the Wine, for it must not all be poured away (as some would have it) and this must so often be done and renewed until the Wine be passing clear without any filth or drossinesse, for by this way their slimy jelly, and glutinous evil quality is clear lost and spent. Being thus prepared, they are to be dried by little and little in an Oven, so long till they may be brought to powder, which being beaten and searfed, it is to be kept in a Glasse vessel far from the fire by it self. A dram of this powder being commixed with the juyce of Marigolds, cureth the Epilepsie, with some sweet Wine, as *Muscadel*, *Baltard*, or the *Metheglin* of the *Welchmen*. It helpeth the *Dropsie*. With white Wine and *Myrrhe*, the *Jaundise*, with new Wine, or *Hydromel* the *Stone*; *Ulcers* of the *Reins* and *Bladder*: It stayeth also the loosnesse of the belly, helpeth barrennesse, and expelleth the *Secondine*, it asswageth the pain of the hanch or hip; by some the *Sciatica*; it openeth obstructions of the *Liver*, driveth away *Tertian Agues*, and expelleth all Worms that are bred in the *Guts*, being given and taken with the decoction or distilled Water of *Germander*, *Worm-wood*, *Southern-wood*, *Garlick*, *Scordum*, *Centory*, and such like.

The decoction of Worms made with the juyce of *Knot-grasse*, or *Comfery*, *Salomons Seal*, or *Sarasius* compound, cureth the disease tearmed by Physitians *Diabetes*, when one cannot hold his water, but that it runneth from him without stay, or as fast as he drinketh. A Glyster likewise made of the decoction of Earth-worms, and also taken accordingly, doth marvellously assuage and appease the pain of the *Hemorrhoids*. There be some that give the decoction of Earth-worms to those persons that have any congealed or clotted blood in their bodies, and that with happy successe. The vertue of Earth-worms is exceedingly set forth, both by the *Grecians* and *Arabians*, to encrease Milk in womens breasts.

Hieronymus Mercurialis a learned Physitian of *Italy*, adviseth Nurses to use this confection following in case they want milk, always provided that there be not a *Fever* joyned withall. Take of the *Kernels* of the fruit of the *Pine-tree*, sweet *Almonds*, of each alike, one ounce, seeds of *Fennel*, *Parsley*, and *Rapes*, of either alike one dram, of the powder of Earth-worms washed in Wine, two drams; with *Sugar* so much as is sufficient, to be given the quantity of a dram or two in the morning, and after it drink some small Wine, or *Capon-broth* boyled with *Rape-seeds* and *Leeks*. Against the *Tooth-ach* the same powder of Earth-worms is proved singular, being decocted in *Oyl*, and dropped a little at once into the ear, on the same side the pain is, as *Pliny* witnesseth, or a little of it put into the contrary ear, will perform the same effect, as *Dioscorides* testifieth. And thus far of Earth-worms taken into the body, and of their manifold vertues, according to the evidence and testimony of *Dioscorides*, *Galen*, *Aetius*, *Paulus*, *Aegineta*, *Myrepsus*, *Pliny*, and daily experience which goeth beyond the precepts of all skilful Masters: for this is the Schoolmistris of all Arts, as *Manilius* in his second Book hath written;

*Per varios usus artem experientia fecit,
Exemplo monstrante viam.*

In English thus;

*Experience teacheth art by use of things,
When as example plainest way forth brings.*

Being also beaten to powder, and outwardly applyed, they do close and solder up wounds, and conglutinate sinews that are cut, and consolidating them again in the space of seven days, and to perform this cure the better, *Democritus* adviseth to keep them in *Honey*. The ashes of Earth-worms duly prepared, cleanseth *Sordious*, stinking and rotten *Ulcers*, consuming and wasting away their hard lips, or callous edges, if it be tempered with *Tar* and *Simblian Honey*, as *Pliny* affirmeth. *Dioscorides* saith, that the *Honey* of *Sicilia* was taken for that of *Simblia* in his time. Their ashes likewise draweth our *Darts* or *Arrows* shot into the body, or any other matter that sticketh in the flesh, if they be tempered with *Oil of Roses*, and so applyed to the place affected. The powder also cureth *Kibes* in the heels, and *Chilblanes* on the hands, as *Marcellus* testifieth, for hurts that happen to the sinews when they are cut in pieces, *Quintus Serenus* hath these verses;

*Profuert terra Lumbricos indere tritos,
Queis vetus & ranceus sociari axungia debet.*

It is good (saith he) to apply to sinews that are dissected. The powder of Earth-worms mixed and wrought up with old, rammish, and unfavory Barrows grease, to be put into the grief. *Marcellus Empiricus*, Besides the powder of Earth-worms and Axunger, addeth further, Grounswell, and the tender tops of the Box-tree with *Olibanum*: all these being made up and tempered together to make an Emplaster, he counselleth to be applyed to sinews that are laid open, cut asunder, or that have received any puncture, or suffer any pain or aking whatsoever. *Pliny* saith, that there cannot be a better medicine found out for broken bones, then Earth-worms and field Mice dried and pulverised, and so mixed together with Oyl of Roses, to be laid in the form of an emplaster upon the part fractured. Yea, to assuage and appease pain, both in the joynts and in the sinews of Horses, there hath not been found out a more notable Medicine, as we may well perceive by the writings both of *Russius*, *Absyrus*, and *Didymus*: whereupon *Cardan* hath observed, that all pains whatsoever may be mitigated by their apt using. *Carolus Clusius* saith, that the *Indians* do make an excellent unguent of Earth-worms against the disease called *Erysipelas*, being a swelling full of heat and rednesse with pain round about, commonly called *S. Antonies fire*: And thus it is prepared:

They first take Earth-worms alive, feeding them either with the leaves of *Mæza*, or else with fine Meal, until by this means they grow fat, afterwards boiling them in an earthen vessel, (remembering ever to scum the same) they do strain them, boyling them yet again, to the consistence almost of an emplaster, which if it be rightly prepared is of a yellow colour. And this Medicine may well be used for any burning or scalding. My purpose is not to vouch all those authorities I might, concerning the admirable Nature and vertue of Earth-worms: for so I think I might alledge six hundred more, which is not meet to be inserted in this place. I will therefore now passe to their qualities and medicinal uses for irrational creatures.

Pelagonius much commendeth Earth-worms as an excellent medicine for the Bots or Worms that are in Horses, and in the bodies of Oxen and Kine, affirming that the best way is to put them alive into their Nostrils, although without question it were far better to convey them into their maws by the means of some horn. *Tardius* adviseth to give the powder of Earth-worms with some hot flesh, to Hawks when they cannot exonerate nature (or how Faulkeners tearm it, I know not.) For that (saith he) will loosen their bellies. Moles do also feed full favorly upon them, and if they fall a digging, it is strange to see with what sudden hast and speed then poor Worms will issue out of the ground. In like sort Hogs and Swine (as *Varro* writeth) by their turning up the mud, and rooting in the earth with their snouts, do by this means dig up the Worms, that they may eat them.

Albertus Magnus saith, that Toads do feed upon Worms. *Belonius* saith, that Lizards and *Tarentinus*, that the Sea-fish called *Gryff*, or *Grample*, doth greedily devour them, and finally experience it self witnesseth, that Frogs, Eels, Gudgeons, Carps, Breams, Roches, and Trowts, do satisfie their hungry guts by feeding upon them. *Aristotle* in his eight Book *De Nat. Animal. Cap. 3.* describeth a certain Bird that liveth in the waters, which *Gaza* interpreteth *Capella*, though the Philosopher calleth it *Aix*, and some have called it *Udhellus*, that liveth for the most part upon Worms: yea, Thrushes, Robin-red-breasts, Mun-murderers, and Bramblings, Hens, Chaffinches, Gnat-snap-pers, Bull-finches, and all sorts of Crows will feed upon them; and therefore it is that there be more Crows in *England*, then in any other Countrey in the world, respecting the greatnesse, because here the soil being moist and fat, there is abundance of Earth-worms serving for their food, as *Polydorus Virgilius* in his first Book of the History of *England*, (which he dedicated to King *Henry* the eight) hath excellently delivered.

The people of *India*, if we will credit *Mmardus*, do make of these Worms divers juncats, as we do Tarts, Marchpanes, Wafers, and Cheese-cakes, to eat instead of other dainties. And the Inhabitants of *West-India* do devour them raw, as *Francis Lopez* testifieth. The people of *Europe* in no place that ever I heard or read of, can endure them to be set on their Tables, but for medicinal uses only they desire them. *Plautus* useth in stead of a proverb this that followeth;

Nuno ab transfenna hic turdus Lambricum petit.

In Bacchide.

It is an allegory taken and borrowed from a gin or snare wherewith Birds are taken: by which *Chrysalus* the bond-man bringing certain Letters to *Nicobolus* an old man, signifieth and giveth warning, that the weak old man was by the reading of the letter no otherwise ensnared, intangled, and deceived, then some Birds are taken by subtile and crafty sleights. For *Transfenna* is nothing but a deceitful cord stretched out to take Birds, especially Thrushes or Mavisses withall, and Worms is their proper food, which while they endeavour to entrap, they themselves are deceived and taken. Surely I should not think that those Fishers and Anglers be very wise, who to take Worms, use to pour lye or water into the earth wherein Hemp, Southern-wood, Centory, Worm-wood, or Vervin have been long soaked, or any other strange moisture, causing them by this mean to issue forth out of the earth, for the Earth-worms by this kinde of dealing being made more bitter, unfavoury, and unpleasant, no fishes will once touch or tast them, but rather seek to avoid them. But contrarywise, if they will let them lie a whole day in Wheat-meal, putting a little Honey to it, and then bait their hooks with them, they will be so sweet, pleasant, and delectable, as that the unwary Fish will sooner bite at it, then at *Ambrosia*, the very meat of the Gods.

Earth-

Earth-worms do also much good to men, serving them to great use in that they do prognosticate and foretell rainy weather by their sodain breaking or issuing forth of the ground : and if none appear above ground over-night, it is a great signit will be calm and fair weather the next day. The ancient people of the world have ever observed this as a general rule, that if Worms pierce through the earth violently, and in haste by heaps, as if they had bored it through with some little Auger or Piercer, they took it for an infallible token of Rain shortly after to fall. For the Earth being as it were imbrued, distained, made moist, and moved with an imperceptible motion, partly the South winde, and partly also a vaporous air, it yeeldeth an easie passage for round Worms to winde out of the inward places of the Earth, to give unto them moist food, and to minister store of fat juyces, or fattish jelly, wherewith they are altogether delighted.

Some there be found, that will fashion and frame Iron after such a manner, as that they will bring it to the hardnesse of any steel, after this order following. They take of Earth-worms two parts, of Raddish roots one part, after they are bruised together, the water is put into a Limbeck to be distilled, or else take of the distilled water of Worms *l. iij.* of the juyce of Raddish *l. i.* mix them together, for Iron being often quenched in this water, will grow exceeding hard.

Another. Take of Earth-worms *l. ij.* distil them in a Limbeck with an easie and gentle fire, and temper your Iron in this distilled water. Another. Take of Goats blood so much as you please, adding to it a little common salt, then bury them in the earth in a pot well glased and luted for thirty days together. Then distil after this the same blood in *Balneo*, and to this distilled liquor, add so much of the distilled water of Earth-worms. Another. Take of Earth-worms, of the roots of Apple-trees, of Rapes, of each a like-much, distil them apart by by themselves, and in equal portions of this water so distilled, and afterwards equally mixed, quench your Iron in it, as is said before. *Antonyus Galus.*

It shall not be impertinent to our matter we handle, to add a word or two concerning those worms that are found and do breed in the snow, which *Theophanes* in *Strabo* calleth *Oripas* : but because it may seem very strange and incredible, to think that any worms breed and live only in the Snow, you shall hear what the Ancients have committed to writing, and especially *Strabo* his opinion concerning this point. It is (saith he) received amongst the greater number of men, that in the snow there are certain clots or hard lumps that are very hollow, which waxing hard and thick, do contain the best water as it were in a certain coat; and that in this case or purse there do breed worms. *Theophanes* calleth them *Oripas*, and *Apollonides*, *Vermes*.

Aristotle saith, that living creatures will breed also even in those things that are not subject to putrefaction; as for example, in the fire and snow, which of all things in the world, one would take never to be apt to putrefie, and yet in old Snow Worms will be bred. Old Snow that hath lyen long, will look somewhat dun, or of a dullish white colour, and therefore the Snow-worms are of the same hiew, and likewise rough and hairy. But those Snow-worms which are found to breed when the air is somewhat warm, are great, and white in colour, and all these Snow-worms will hardly stir, or move from place to place. And *Pliny* is of the same judgement, and the Author of that Book which is intituled *De Plantis*, falsely fathered upon *Aristotle*.

Lib II. c. 35.

Yet some there be that denying all these authorities, and rejecting whatsoever can be objected for confirmation thereof to the contrary, do stoutly maintain by divers reasons, that creatures cannot breed in the Snow : because that in Snow there is no heat, and where no quickning heat is, there can be no production of any living thing. Again, *Aristotle* writeth that nothing will come of Ice, because it is (as he saith) most cold : and hereupon they infer that in all reason, nothing likewise can take his beginning from Snow; neither is it credible, that husbandmen would so often wish for Snow in Winter to destroy and consume Worms, and other little Vermine, that else would prove so hurtful to their corn and other fruits of the earth. And if any Worms be found in the Snow, it followeth not straightways that therein they first receive their beginning, but rather that they first come out of the earth, and are afterwards seen to be wrapped up, and lie on heaps in the Snow.

But by their leaves these reasons are very weak, and may readily be answered thus; that whereas they maintain that nothing can breed in the Snow, because it is void of any heat at all, herein they build upon a false ground. For if we will adhibit credit to *Averrhoes*, there is nothing compounded and made of the three Elements, that is absolutely without heat. And *Aristotle* in his fifth Book *De Generatione Animalium*, telleth us precisely, that there is no moisture without heat. His words are *Ouden hugron aneu thermou*. Now Snow is a compact, and fast congealed substance, and somewhat moist, for although it proceedeth by congelation, which is nothing else but a kinde of exsiccation, yet notwithstanding, the matter whereof it first cometh is a vapour, whose nature is moist, and with little ado may be turned into water.

I must needs say that congelation is a kinde of exsiccation, but yet not simply: for exsiccation is, when as humidity goeth away, it putteth forth any matter, but in Snow there is no humidity that is drawn out, but it is rather wrapped in and inclosed more strongly, and as it were, bounded round. Furthermore *Aristotle* in his first Book of his *Meteors* saith, that Snow is *Nubes congelata*, a clowd congealed or thicked together, and that in Snow there is much heat. And in his fifth Book *De Generatione Animalium*, he further addeth, that the whitenesse of the Snow is caused by the air, that the air is hot and moist, and the Snow is white; whereupon we conclude, that Snow

Snow is not so cold, as some would bear us in hand. I well hold that nothing will take his Original from Ice, in regard of his excessive coldness, but yet snow is nothing nigh so cold as that. So then all the hinderance and let. is found to exceed of cold, which is nothing so effectual or forcible as in Ice, and the cold being proved to be far lesser, there can nothing be alleadged to the contrary, but that it may putrefie.

Now in that Snow is such an enemy to Worms, and many other small creatures, as that for the most part it destroyeth them, yet it followeth not, that the reason of *Aristotle* is quite overthrown: because (as we daily see) that those creatures which live in the air, will for the most part be suffocate and die in the water; and contrariwise, those that live in the water, cannot endure the air. Yet hereupon it followeth not, that if they be choked in the water, that none at all will live in the water, and the same reason is to be alleadged concerning the air. Therefore it is no marvail if those Worms that first breed in the earth, and live in the earth, be killed by the Snow; yet it necessarily followeth not, that no living creature can take his first being either from or in the snow. But if it can, as *Aristotle* witnesseth, it is so far unlikely that the same Snow should be the destroyer of that it first was bred of, as I think rather it cannot live separately, but of necessity in the same Snow; no otherwise then fishes can live without water, from which they first sprung and had their beginning.

And to this opinion leaneth *Theophrastus*, in his first Book *De Causis Plantarum*, whose words be these, *Apania gar pha n tai ta zoa, kai ta phuta kai diamenonta, kai genomena, en tois oikeiois topois*: For all creatures (saith he) whatsoever seem, both plants to remain, and to be generated and bred, in their own due and proper places. And after this he addeth and urgeth a little further, *Aparthe men hupo touton*; from his own home and special particular place of abode, nothing can suffer, sustain harm, or be corrupted. And in his fifth Book *De caus. Plan.* he setteth it down more perspicuously, how that Worms which are bred in some special trees, being afterward translated and changed to other trees, where they never came before, cannot possibly live. Wherefore it is more consonant to reason, and more agreeable to common sense, to affirm that those Worms which are found folded and rolled up in the Snow, to have been first bred in the same Snow, rather then to have issued out of the earth.

Neither are we to make any question or scruple concerning their food; for there is no doubt, but the mother from whence they proceeded, will provide sufficient nourishment for her own children. For as we said a little before, the Snow is no simple thing, but compacted and concrete together of many, and of this nature ought every aliment to be. *Julius Caesar Scaliger* is of this minde, that Worms are ingendered and brought forth in the very Snow, because there is in it much air and spirit, which afterwards being heated and brought to some warmth together, may cause them to generate; for it is the nature and quality of Snow to make fat the earth, of which fattish moisture or Jelly, there may (heat being joyned) be produced a living creature.

There be some that do constantly hold, that in the midst of certain stones, of which they use to make Lime, there do breed divers creatures, of very different kindes, and sundry proportions and shapes, and likewise Worms, with hairy backs, and many feet, which are wont to do much hurt to Furnaces and Limbeckills where they make Lyme. Yet *Casparinus* in his first Book *De Metal.* chap. 2. thinketh the contrary, assuring us that in Metal-mines, Quarries of Marble, and other stones, there can never any living body be found. And yet in Rocks of the Sea, within the hollow places and rifts of the stones, they do commonly finde certain small living things called *Dactili*.

I do not doubt, whatsoever he saith to the contrary, but that many creeping, and other living creatures, may be found both in the secret Mines of stone, and sometimes also amongst Metals, although it be seldom seen. And for confirmation hereof, I will alleadge one example happening not many years since in our own Countrey. At *Harlestone* a mile from *Holdenby* in *Northamptonshire*, there was a Quarry of free stone found out, of which they digged for the building of *Sir Christopher Hattons* house, where there was taken up one being a yard and a half square every way at the least, and being cloven asunder, there was found in the very midst of it a great Toad alive, but within a very short space after, comming to the open air, it dyed. This stone amongst others, was taken very deep out of the earth, it was split and cut asunder by one whose name is *Lole*, an old man yet living at this day, it was seen of five hundred persons, Gentlemen and others, of worthy repute and esteem, the most part of them living at this hour, whose attestation may defend me in this report: and surely if Toads may live in the midst of stones, I can see no reason but that Worms may there be found, but as yet I could never see it.

In the year of Grace 970. at what time *Romualdus* the son of *Sergius* a young Monk, was advanced by the Nobility of *Ravenna* to be their Archbishop, there followed a great death and murrain among Earth-worms: after that again ensued scarfity and death of all fruits of the earth, as *Carolus Sigonius* in his Chronicle of the Kingdom of *Italy* declareth. *Henry* Emperor of *Rome*, the son of the Emperour *Henry* the third, as *Crantzius* hath written, when he took his voyage into *Italy*, being suddenly stayed of his intended course, with an Army sent against him by *Matild*, that he should passe no further then *Lombardy*, yet having taken *Mutina*,

there appeared a strange and uncouth sign in the air, for an innumerable company of Worms, smaller and thinner then any Flies, did flie about in the air, being so thick that they might be touched with any small stick or wand, and sometimes with the hand, so that they covered the face of the earth one mile in breadth, and darkned likewise the air two or three miles in length. Some did interpret it as a sign or fore-telling, that some Christian Prince should go into the Holy-land.

In the year of our Lord God one thousand one hundred and four, there were seen divers fiery and flying Worms in the air, in such an infinite multitude, that they darkened the light of the Sun, seeming to deprive mens eye-sight thereof, and shortly after this monstrous and unnatural wonder, there followed other strange and seldom-seen prodigious sights on the earth: and what a boisterous storm of troubles, and raging whirl-winde of War and bloud-shed shortly after ensued, the event thereof did plainly manifest.

FINIS.

A Physical Index, containing plentiful Remedies for all Diseases incident to the Body of Man, drawn from the several Creatures contained in this First Volum.

A.		Bloud stop,	22.25.64.71.75.93.196.204.533.535. 545.215.216.338.402.725.731.789.
A Bortion,	92.104.165.498.504.534.	Bloud stinking,	338.
A ches,	27.148.178.346.347.378.499.504.	Bloudy flux,	22.50.65. ibid. ibid. 71.75. 104. ibid. 105.149.165.197. ibid. 199. ibid. 200. 201. ibid. 202.446.498.499. ibid. 500. ibid. 501. 506. 536.545.217.220.617.645.
A corn good against poison,	718.	Bleeding at the nose caused,	38.
A gues,	21.34.75.84.93.198.201.202.215.216. 338.346.378.379.385.402.500.504.505.506. 5032.536.546.566. 582. 655. 676. 695 750.788. ibid. ibid. 789.810.814.	Blindness,	204.401.
A lopecia,	178. ibid. 196.200.204.401. 455.500.568.219.645.	Blasted,	22.337.
A lmonds swolln,	500.	Blemishes,	378.379.
A miantes what it is,	749.	Blockish,	439.
A ncle pains,	501.545.	Bowels,	215.
A mmodites bites cured,	630.	Bones broken,	148.336.533.535.544.545.
A morous to make,	341.	Bones out of joynt,	336.
A ntidote against poison,	104. 105. 149. 198. 199.615.810.	Botches,	25.34.64.346.347.
A ntonies fire,	25.104.200. ibid. 202.504. 506. ibid. 533.810.811.	Breath short,	65.75.104.178.179.201.410. 440.500.501.502.217.810.
A postumes,	22.25.34.50.64.	Breath stinking,	401.402.431.502.
A poplex,	39.	Breasts swolln,	216. ibid. 403.537.
A ppetite restored,	431.	Breasts inflamed,	149.203.
A rne pits sink,	196.	Bruises,	501.505.537.
A rrowes to draw forth,	814.	Buls bloud poison,	50.51.
A sps bitings,	568.636.637.	Bunches in the face,	70.204.
B.		Bunches,	391. ibid. 402.498. 506.533.535.537.
B aldness,	391.535.220.	Buprestis,	531.534.
B arrenness cured,	616.	Burnings,	51.204.439.498. ibid. 500.505.533. 535.537.217.810.814.
B arrenness caused,	216.337.345. ibid. 379.439. 440.568.750.814.	Burstings.	64.200.204.215.
B ack-pains,	25.83.34.504.506.	C.	
B ely pains,	39.51.105.198.201.202.216.337. 345.346. ibid. 347.352.379.411. 446.455.546.582.217.220.645.	C achea,	220.
B elly soft,	39.75.220.	C ankers,	46.216.378.499.500.506.507.
B elly to make loose,	22.65.200.337.458.500.536.	C ancers,	661.
B elly swolln,	582.741.788.	C antharides,	199. ibid. 660.661.662. ibid. 663.664.
B elly to stop,	22.64.70.75.92.198. ibid. ibid. 200.202.203.220.	C arbuncles,	200.202.204.500.504. 535. ibid. 544.645.
B ees differences,	637.644.	C auteries where not to apply,	627.
B ees stings cured,	646. ibid. ibid.	C astoreum,	38.
B itings of men,	70.	C aterpillars,	671.
B ees torment,	646.	C atarrhs,	22.25.
B ees profit,	ibid.	C attel bleeding,	339.
B itings of Adders,	105.	C haps,	21.104.148.537.
B itings of mad Dogs,	144.148.197.202.	C heeks softened,	71.
B itings,	216.347.385.	C hildren,	203.
B itings venomous all cured,	621.622.923.624.625.	C hildrens teeth,	65.149.201.337.379.499.535.582.
B oils,	417.	C hildrens loose bellies,	506.216.
B listers,	205.533.544.	C hildbirth,	22.34. ibid. ibid. 51.65.104. ibid. 149. 200.203.215.337. ibid. 338.346. ibid. 502. 505.536.568.217.615.616.617.676.695.
B lindness cured,	741.	C hild dead in the womb,	339.
B ladder,	21.215.545.546.	C hilblanes,	337.410.814.
B loudstone what it is,	715.	C itrons virtue,	637.
B loud corrupt,	198.532.	C olick,	22.23.39.65.93.104.105.149.200.203. 216.337.346.352.403.408.446.498.536. ibid. 568.582.583.584.217. ibid. 229.617.
B loud spitting,	22.104.105.165.204.216. 401.402.506.810. 149.216. ibid. 814.	C orus,	661.
B loud congealed,	149.216. ibid. 814.	C oriander seeds virtue,	701.
B loud pissing,	506.	C ough,	21.22.34.39.64.65.104.165.199.
		Aaaa 3	204.

The Physical Index.

204.214.338.498.534.535.536. 583.217.220.695.723.		Ears ulcerated,	105.201.203.499.502. 535.545.567.617.
Cockatrices killed,	681.	Erysipelat,	815.
Cods swollen,	71.	Ears tingling,	93.
Choler to purge,	500.	Elephantiasis,	615.
Cold prevented,	408.34.39.	Eloquent to make,	617.
Complexion restored,	695.	Ears,	216.338.411.
Conception, 65.148.198.202.216.337.346.379. 431.458.500.506.536.560.584.217.616.		Eyes broken,	615.
Conception hindered,	337.379.439.568.	Eyes dim,	75.93.179.422.197.423.431.505. 583.616.715.725.810.
Concord preserved,	342.	Eyebrowes hair,	220.743.
Cordial,	352.	Eyes bleared,	535.582.
Convulsions, 34.39.84.200.533.537.545.220.		Eyes a squint,	715.
Corroborative,	506.	Eye skin,	215.
Consumption,	22.65.103.201.202.	Eyes superfluous flesh,	75.
Copulation,	46.51.	Eyes running, 64.104.499. ibid. 500.501. ibid. 502. 346.615.741.788.792.810.	
Courage,	431.	Eyes white,	201.537.
Contraction of nerves,	51.	Eyes spots,	498.788.
Costiveness,	104.	Eyes blind,	84.346.
Corns,	439.500.536.750.	Eye salve, 51.200.220. ibid. 676.691.695.697.741.	
Cramp, 46.169.178.198.204.336.347.385.533. 537.582.220.723.		Eyes diseases,	83.84.178.198.199.216.
Cripples,	34.	Eyes,	202.204. ibid. ibid.
Crocodiles,	692.695.	Eyes closed,	23.
Creeeping Ulcers,	715.	Eyes to clear,	39.379.401.410.346.616.617.
Crick in the neck,	723.	Eyes bloud shot,	617.
	D.	Eyes wounded,	337.
Drandruff,	499.	Eyes web,	22.84.
Darts drawn forth,	400.179.	Eyelids,	203.204.401.402.403.498.504.
Deafness, 22.64.65.71. ibid. 148.199. ibid. 203. 378.379.401.402.411.431.545. 546.582.616.741.			F.
Demoniacs cured,	757.	Face to make horrible,	617.
Digestion helpt,	22.220.	Face to make fair,	201.500.616.742.
Diureticks,	661.	Face spots,	504.534.220.645.
Death of hunters,	342.	Face swollen,	455.
Dead sleep,	342.	Fat to make,	402.741.
Dead flesh,	336.504.505.	Faint heart,	4.
Delivery to cause,	403.408.	Falling sickness, 4.21.22. ibid. 23. ibid. 34. ibid. 25. 37.39. ibid. 64.75.92. Helpt in children, 93. 104.148.165.169.171.200.201.178.197. 198.199.203.204.216. ibid. ibid. ibid. 337.339.379.385.431.440.446.498. 499.500.504.506. ibid. 536.537. 545.558.566.567.568.582.616. 676.695.742.792.810.814. 199.417.498.505.533.788.	
Delivery hindered,	695.	Fellons,	22.341.378.
Diseases of Beasts,	533.534.535.	Feet sore,	104.198.202.695.
Dismembring without pain,	691.695.	Feet swollen,	439.
Diabetes,	216.148.204.725.814.	Feet pinched,	505.506.535.544.545.582.
Dogs scabbed,	65.	Feet pain cured,	378.
Dogs mad, 22.27.34.70.203.203.345.338.341. ibid. 346.417.501.504.505.533. 545.558.583.220.615.619.		Fevers,	202.546.582.220.695.724.725.
Dogs appetite,	410.	Fire to resist,	749.
Dislocations,	501.545.	Fistulaes,	51.90.204.385.391.439.500. 533.219.615.731.
Distiness in the head,	217.	Fleas,	34.
Dysentery,	51.810.	Flesh spongy,	204.
Dysuria,	21.104.105.	Flies,	32.378.
Dragons bitings cured,	715.	Flix,	215. ibid. 216. ibid. 347.379.
Dreams, 34.337.345.378.502.615.676.		Flux of blood,	21.
Drones use,	949.650.716.	Flux,	71.197.198.202.204. ibid. 535. ibid. 537.545.788.792.810.
Dropfie, 22.65.75. ibid. 105. 149.197.198. ibid. 199.202.203. ibid. 338.458.500.504.532. 546.568.583.220. ibid. 645.723.810.		Flowers,	501.
Drunkennes,	204.499.535.558.662.	Fortunate to make,	715.
Drowfiness,	545.	Fractures of bones,	423.
Dryin's bites cured,	718.	Frantick,	501.
	E.	Ereckles,	533.741.
Ears inflamed,	64.34.503.	French pox,	737.
Ears pained, 31.51.71.148.149.200.179.501. 502.545.502.506.510.534.545.617.757.788.			Frensie,
Ears running,	33.51.		
Earth-worms prepared for medicaments,	814.		

The Physical Index.

Fraxie,	39.499.501.505. <i>ibid.</i> 567.	Heart panting,	455.532.
Frogs use,	723.	Heart trembling,	39.105.
Froth in childrens mouths,	400.	Heat unnaturall,	532.
Fruitful to make,	217.	Hemorrhies biting cured,	733.
Fruit preserved,	341.	Hiccup,	339.
Fucus,	695.	Higher powers pacified,	715.
Fumes,	502.	Honey poisoned remedied,	645.
Fundament diseases,	403.583.417.148.200.	Hip pains,	25.203.104.534.545.
	504.534.535.788.	Hornets stings cured,	660.
G.		Horse remedies,	616.617. <i>ibid.</i> 742.
Argarism,	200.201.	Horse to make stale,	39.
Gall running over,	23.336.	Hoarseness,	220.
Gangrene,	692.	Humours evil,	532.
Genital sore,	196.337.	Husbands to make to love their wives,	93.
Gonorrhea,	39.202.346.385.	Hypochondrial Inflammations,	503.
Gout,	22.23.25.27.37.65.71.75.83.50.103.104.		
	148.197. <i>ibid.</i> 199.203.204.215. <i>ibid.</i> 216. 45.	I.	
	<i>ibid.</i> 346. <i>ibid.</i> 378. <i>ibid.</i> 387.401. <i>ibid.</i> 402.	Jaundies,	93.104.203. <i>ibid.</i> 500.336.
	439.440.498.499. <i>ibid.</i> 500.503.504.505.		338.379.814.
	506.431.534.536.545.566.567.581.	Jaws pained,	104.507.
	582.217.616. <i>ibid.</i> 662.676.695.	Jawbone swollen,	379.
	723.731.757.788.789.810.	Iliack pain,	71.
Gracious amongst Princes to make,	617.	Impostumes,	336.337.391.417.532.537.567.
Gravel,	536.	Impostume in the head,	532.
Green frogs best for use,	725.	Inflammations,	346.347.533.
Guts wringing,	92.148. <i>ibid.</i> 197.199. <i>ibid.</i>	Inchantments of love,	676.
	499.500.546.727.	Intrails,	39.
Gums,	104.200.616.	Invincible to make,	715.
H.		Invisible to make,	676.
Hair to increase,	90.21.22.27.204.336.346.	Infants stopt,	670.
Hair to fasten,	25.34.51.345.379.534.220.	Inflammations,	723.
Hair to curl,	25.75.505.	Joints pain,	345.378.535.545.723.
Hair falling,	661.692.695. <i>ibid.</i> 725.	Joints loose,	498.499.
Hair to take away,	148.149.391.401.439.	Joints broken,	204.582.
	500.507.676.	Joints stiffe,	531.
Hair of the eye-lids,	21.34.64.200.104.	Itch,	201.385.533.537.
	196.198.400.	K.	
Hair not to grow,	725.750.791.792.	Erastes biting cured,	733.
Hair yellow,	534.	Kernels,	337.197.
Hair to renew,	391.401.404.217.220.616.810.	Kibes,	22.104.199.215.216.410.
Hair,	215. <i>ibid.</i> 337.		423.498.505. <i>ibid.</i> 506.
Hairs gray to hinder,	616.646.		533.535.536.814.
Hair of horses to change,	391.	Kidneys,	545.
Hair to make white,	646.	Kings evil,	21.22.34.65.25.64.104.
Haws remedy,	395.		149.199.200.203.216.
Hawks feathers renewed,	617. <i>ibid.</i>		391.392.501. <i>ibid.</i>
Hawks cured,	742.792.		506.533.615. <i>ibid.</i>
Handmade white,	65.		629.743.755.
Harts worms cured,	616.	Knees pain,	104.545.
Hatred procured,	342.	Knots,	503.661.
Hardnesse,	615.	L.	
Hemlock,	204.534.216.	Amenesse,	439.
Head cured,	616.	Lask,	215.216.202.
Headach,	21.22.39.65. <i>ibid.</i> 104.165. <i>ibid.</i> 198.	Law suits,	342.
	201.202.204.214.339.343.387.	Legs sore,	535.204.
	401.402. <i>ibid.</i> 431.505.535.	Legs swollen,	378.403.
	536.566.676.	Leachery abated,	385.
Head bruised and sore,	71.536.	Leprosie,	22.25.29.51.64.71. <i>ibid.</i> 165.
Head boils,	22.140.170.		179.197.198.201.215.345.
Head swellings,	402.		391.558.505.566.567.
Head scurf,	402.		220. <i>ibid.</i> 615. <i>ibid.</i> 616.
Health preserved,	810.		<i>ibid.</i> 617.661.676.
Hearing helped,	39.338. <i>ibid.</i> 499.545.217.		723.808.809.810.
Heart sorrow,	337.378.	Lethargie,	22.38.39.208.499.
Heart swelling,	439.		568.676.
Heart pain,	431.810.	Leech to make fall off,	90.
Heart fear,	431.	Lingring diseases,	500.
		Lice,	

The Physical Index.

Lice, 537.788
Liver stoppt, 814.
Life to make long, 810.
Lips, 197.204.645.
Liver sick, 21.178.216.379.
582.583.810.
Lizard venomous, 741.
Lousie evil, 71.104.165.200.617.
Loin pains, 34.104.345.346.502.537.
217.747.792.
Loosenesse, 93.197.
Love procured, 342.
Lunatick, 582.757.
Lungs consumed, 22.338.401.
Lungs, 532.534.742.
Lust provoked, 379.431.535.545.583.
Lust restrained, 431.438.504.583.
Lust, 105.
Lyxnes skin pretious, 385.
Lyncurium, 384.

M.

MAd beasts, 694.
Madnesse, 148.379.
Mad men, 378.220.
Magicians folly, 676.715.723.
725.767.
Mans Urine, 637.
Manginess, 455.
Man to make gracious, 92.
Males, 198.216.
Maw wormes, 532.
Matrix pains, 347.534.
Megrim, 39.402.504.505.
Melancholy, 39.201.431.378.
400.676.810.
Memory, 90.39.215.342.
345.676.
Meninx, 533.
Metempsychosis, 342.
Mice bitings cured, 403.
Mice pifs dangerous, ibid.
Milk in breasts, 21.64.403.536.
Milk in breasts curled, 65.216.506.788.
Milk in breasts to make, 217.814.
Milt pains, 21.23.65.75.104.204.
498.499.507.532.
545.217.220.810.
Millets bite cured, 744.
Mind troubled, 347.
Monethly courses to stop, 750.
Mother, 431.505.
Morphew, 64.615.
Mouth sore, 22.51.27.64. ibid. 65.
71. ibid. 104. 149.
200. 338. 345.
Mouth bleeding, 536.
Mouth scurf, 582.583.
Mules biting venomous cured, 440.
Murrain, 27.
Musicks virtue, 772.
Musk, 431.

N.

NAils rough, 22.199.498.661.
Nails peeling, 71.
Nails loose, 500.501.505.533.
Navel swoln, 22.
Nerves, 204.534.220.
Nerves shrunk, 378.408.
Neck stiff, 64.203.533.
Neck swoln, 810.
Neck pains, 536.
Neuts falsly used by Apothecaries, 745.
Nits cured, 71.148.537.
Night visions cured, 715.
Night gals, 199.
Noli me tangere, 616.
Nose bleeding, 37.197.198. ibid. 200.
501.502.505.506.
537.545.670.
Nostrils sore, 345.

O.

OEsopus what it is, and severall wayes to make it, 502.503.
Obstructions, 75.104.
Ophiogenes were Juglers, 625.
Ox blood, 65.

P.

PAins inward, 197.
Pains secret, 501.502.
Pains cured, 661.
Pains, 202.498.
Panacea, 645.
Palsy, 32.34. ibid. 37.39. ibid. 148.178. ibid. 411. ibid. 431. ibid. 455. 501. 566.
582. 217. 616. 676. 810.
Paps, 202.
Pelias bites cured, 745.
Piles, 22.34.75.83.105.378.
535.536.615.
663.
Pessuli infirmitas, 64.104. ibid. 179.215.
346.567.617.
Pimples on the face, 757.
Pin and web, 401.545.
Plague cured, 745.
Pissing a bed, 401.
Porphyries venom deadly, 745.
Pose, 401.
Poyson, 22.37.51.65.70.75. ibid. 88.21.22.38.
215. ibid. 338. 379.
Poyson to restrain, 439.500.506.531.532.
558.566.617.810.
Poysoned arrowes, 678.
Poyson to expell, 337.217.757.788.
Plurisie, 504.533.694.
532.810.
Plague, 506.533.566.567.583.616.
Pox, 198.
Pox small, 646.
Prester a fiery Serpent among the Israelites, 582.
Prints on the body, 65.71. ibid. 148.216.498.
501. ibid. 502. 504.
532.535.537.583.
582.
Procreation, Proud

The Physical Index.

Proud flesh, 219.
 Prisick, 64.65.104. ibid. 195.199.504.
 536.583.220. ibid.
 Purblind, 65.93.200.346.

Q Vick-silver, 534.
 Quinsie, 75.88.149.200.204. ibid. 338.
 537.566.582.583.338.400.670.

R.

R Econciliation made, 676.
 Reins weak, 345.
 Reins wasted, 22.65.202.
 Reins pained, 22.27.217.220. ibid. ibid. 695.810.
 Rest procured, 345.
 Rheume, 165.431.567.662.
 Ribs, 204.
 Ring worms, 75.104. ibid. 202.505.
 533.661.663.810.
 Robbers of Orchards to find out, 663.
 Running blood, 501.
 Rupture, 498.504.5.3.534.537.
 545.217.220.741.

S.

S Alamanders venom cured, 750.
 Sand-blinde, 347.
 Scabs, 22.51.196.200.505.
 532.533.616.723.
 St. Pauls lineage pretended, 625.805.
 Scars, 22.498.499.502.505.533.742.
 Scalded, 401.410.
 Secondine, 201.215.216.337.814.
 Sciatica, 349.402.545.165.217.662.695.814.
 Scurf, 22.71.198.535.
 Shoulders ach, 567.346.
 Serpents most spotted least venomous, 617.
 Serpents, 50.196.198.199.337.535.
 544.545.566.220.
 Serpents prepared, 616.
 Serpents bites cured, 615.670.691.699.810.
 Serpents blood better then balsam, 616.
 Serpents crept into ones belly, 338.
 Serpents to drive away, 618.
 Serpents to take, 626.
 Scorpions stinging, 23.199.338.391.
 Scorpions to drive away, 755.756.
 Scorpions antidote, 694.741.
 Scorpions kinds many, 751.
 Shrewmouse bites, 338.391.400.418.419.
 420.506. ibid. 566.

Shotfree, 341.
 Skin softned, 533.
 Skin made fair, 378.
 Skin foul, 64.
 Skin made white, 22.
 Skin to soften, 616.
 Skin thick, 742.
 Shamefacedness, 337.
 Sides pain, 533.545.
 Sinews pain, 39.64.204.215.336.345. ibid.
 346. ibid. 695.723.
 Sinews shrunk, 536.566.567.723.
 Sleep, 22.39.65.200.
 Sleep caused, 504.582.220.723.

Senses to sharpen, 810.
 Sight to preserve, 25.
 Smelling, 75.
 Snakes venomous only at some time of the Moon, 615.
 Soft to make, 27.50.51.70.
 Slow-wormes venomous cured, 764.
 Snakes remedy, 768.
 Sneezing, 39.
 Souls transmigration, 342.
 Sores cured, 247.501.506.
 Sores, 149.203.
 Sores inward, 337.
 Spiders remedies, 773.774.775.776.
 Spleen sick, 25.22.64.65.75. ibid. 73.104.105.
 149.179.198.203.204.337.346.
 Spleen swollen, 500.504.788.
 Splints to draw forth, 751.
 Spitting matter, 410.
 Spots, 64.93.165.197.198.695.
 Stellions biting cured, 792.
 Stiches, 502.583.
 Stinking breath, 215.
 Stomach cold, 65.
 Stomach raw, 645.
 Stomach pained, 39.65.104.201.431.536.583.
 Stomach weak, 458.220.
 Stomach ulcerated, 22.
 Stomach bleeding, 27.
 Stone, 165.178.179.197.198.203. ibid. 214.
 215.216.337.500.501.502.506.
 536.537.545.582.584.217.
 ibid. 645.810.814.
 Stone of the bladder, 25.84.349.220.
 727.757.768.
 Stone Colick, 338.339.346.403.
 Strains, 201.615.
 Strangullion in a horse, 616.
 Strangury, 21.104.198.440.546.566.
 568.385.210.645.
 Strength restored, 431.
 Stripes healed, 204.498.499.
 Struma, 615.
 Surbated, 533.
 Suffocation of the belly, 615.
 Suppositary, 498.
 Sweating, 199.338.
 Sweating sicknesse, 671.
 Sun burning, 93.204.215.
 Suffusions, 695.
 Swellings, 25.34. ibid. 70.64.93.104.178.179.
 197.198.200.203. ibid. 392.400.
 455.504.532.200.661.

T.

T Araspulaes venom cured, 772.
 Tetanus, 65.
 Teeth, 104.200.22.22.64. ibid. 104.616.
 Teeth white, 501.502.559.
 Teeth fastned, 339.391.504.536. ibid. 582.583.
 Teeth to make fall out, 617.721.741.789.
 Teeth breeding, 215.
 Teeth-ach, 22. ibid. 39.51.93.149.215.216.337.
 345.392.400.402.403.499.501.
 502.531.615. ibid. 616.617.
 670.692.741.814.
 Tetters, 491.402.504.204.661.663.
 Temples

The Physical Index.

Temples,	501.	Uvula,	385.582.
Tenasmus,	617.		
Throat four,	22.64.65.201.203.385.	W.	
Throat swelling,	534.		
Tongue sore,	535.		
Thorns to pull out,	65.84.204.215.216.220.	Water in the belly or stomach,	338.
Toads and Spiders antipathy,	729.	Warts,	149.400.410.500.505.
Toads poison cured,	629.730.		532.220.661.789.
Trembling,	204.537.	Wasps stings cured,	655.656.657.670.
Toad-stone its original and virtues,	727.	Wens,	21.83.337.392.545.566.670.
Toads bred in men how cured,	728.		629.692.741.792.
Toads three, formerly the French Arms,	729.	Web in a horses eye,	29.84.
Touching with virtue,	391.	Weakness,	39.
Tortoise good meat or not,	796.	Weasils bites cured,	568.
Tortoise blood unites any thing cut asunder,	799.	Whites,	65.104.
Tumours,	533.	Whore of Babylon,	728.
Tympany,	346.	Wife to make,	617.
Tyranny freed from,	342.	Witches use Toads,	730.
Tyria what disease it is,	808.	Witchcraft,	341.342.
		Windiness dissolved,	431.499.
		Wit to quicken,	810.
		Womens courses,	22.23.39.64.104.105.203.204.215.216.217.218.219.220.221.222.223.224.225.226.227.228.229.230.231.232.233.234.235.236.237.238.239.240.241.242.243.244.245.246.247.248.249.250.251.252.253.254.255.256.257.258.259.260.261.262.263.264.265.266.267.268.269.270.271.272.273.274.275.276.277.278.279.280.281.282.283.284.285.286.287.288.289.290.291.292.293.294.295.296.297.298.299.300.301.302.303.304.305.306.307.308.309.310.311.312.313.314.315.316.317.318.319.320.321.322.323.324.325.326.327.328.329.330.331.332.333.334.335.336.337.338.339.340.341.342.343.344.345.346.347.348.349.350.351.352.353.354.355.356.357.358.359.360.361.362.363.364.365.366.367.368.369.370.371.372.373.374.375.376.377.378.379.380.381.382.383.384.385.386.387.388.389.390.391.392.393.394.395.396.397.398.399.400.401.402.403.404.405.406.407.408.409.410.411.412.413.414.415.416.417.418.419.420.421.422.423.424.425.426.427.428.429.430.431.432.433.434.435.436.437.438.439.440.441.442.443.444.445.446.447.448.449.450.451.452.453.454.455.456.457.458.459.460.461.462.463.464.465.466.467.468.469.470.471.472.473.474.475.476.477.478.479.480.481.482.483.484.485.486.487.488.489.490.491.492.493.494.495.496.497.498.499.500.501.502.503.504.505.506.507.508.509.510.511.512.513.514.515.516.517.518.519.520.521.522.523.524.525.526.527.528.529.530.531.532.533.534.535.536.537.538.539.540.541.542.543.544.545.546.547.548.549.550.551.552.553.554.555.556.557.558.559.560.561.562.563.564.565.566.567.568.569.570.571.572.573.574.575.576.577.578.579.580.581.582.583.584.585.586.587.588.589.590.591.592.593.594.595.596.597.598.599.600.601.602.603.604.605.606.607.608.609.610.611.612.613.614.615.616.617.618.619.620.621.622.623.624.625.626.627.628.629.630.631.632.633.634.635.636.637.638.639.640.641.642.643.644.645.646.647.648.649.650.651.652.653.654.655.656.657.658.659.660.661.662.663.664.665.666.667.668.669.670.671.672.673.674.675.676.677.678.679.680.681.682.683.684.685.686.687.688.689.690.691.692.693.694.695.696.697.698.699.700.701.702.703.704.705.706.707.708.709.710.711.712.713.714.715.716.717.718.719.720.721.722.723.724.725.726.727.728.729.730.731.732.733.734.735.736.737.738.739.740.741.742.743.744.745.746.747.748.749.750.751.752.753.754.755.756.757.758.759.760.761.762.763.764.765.766.767.768.769.770.771.772.773.774.775.776.777.778.779.780.781.782.783.784.785.786.787.788.789.790.791.792.793.794.795.796.797.798.799.800.801.802.803.804.805.806.807.808.809.810.811.812.813.814.815.816.817.818.819.820.821.822.823.824.825.826.827.828.829.830.831.832.833.834.835.836.837.838.839.840.841.842.843.844.845.846.847.848.849.850.851.852.853.854.855.856.857.858.859.860.861.862.863.864.865.866.867.868.869.870.871.872.873.874.875.876.877.878.879.880.881.882.883.884.885.886.887.888.889.890.891.892.893.894.895.896.897.898.899.900.901.902.903.904.905.906.907.908.909.910.911.912.913.914.915.916.917.918.919.920.921.922.923.924.925.926.927.928.929.930.931.932.933.934.935.936.937.938.939.940.941.942.943.944.945.946.947.948.949.950.951.952.953.954.955.956.957.958.959.960.961.962.963.964.965.966.967.968.969.970.971.972.973.974.975.976.977.978.979.980.981.982.983.984.985.986.987.988.989.990.991.992.993.994.995.996

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THE
THEATER
OF
INSECTS:

OR,
Lesser living Creatures.

AS,
BEES, FLIES, CATERPILLARS, SPIDERS,
WORMS, &c. a most Elaborate Work.

By *THO. MOUFFET*, Doctor in Physick.



LONDON, Printed by E. C. 1658.

THE
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OF
INSECTS

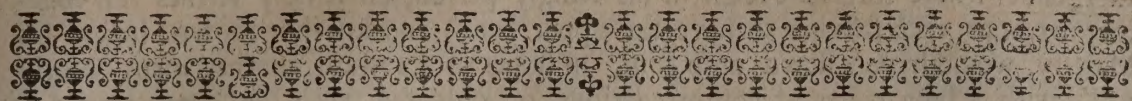
OR
Latter Living Creatures



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To the Noble Knight, and the Kings chief Physician, Dr. WILLIAM PADDY:
Theodore Mayerne, Knight, Baron of St. Albons, and Companion to the
chief Physicians in the Court of Britain, wisheth much health.

Our Countryman *Mouffet*, a notable ornament to the company of Physicians, a man of the more polite and solid learning, and well experienced in most Sciences, had formerly entituled this work of Insects to the ever famous *Elizabeth*, (who was wise above her Sex, valiant, born to reign well, and ruled so many years by the Votes of her Subjects, and by her own undertakings and actions, that were so successful that they were envied at) it was begun by others, but augmented by him, polished, and as it now comes forth exactly perfected, and he thought it no indignity to Dedicate to the greatest Princess the miracles of Nature, which are most conspicuous in the smallest things, which testify the infinite power of the supreme Creator of all things, and raise the mindes of Princes who are the children of the most Highest, to the cause of all causes, that they may in all places acknowledge the presence of the Deity, and his bountiful hand in his singular direction in respect of them, and his influence that acts by election, and may adore him with an humble, as with a grateful minde; so weighing by reason the degrees of proportion, that he is most obliged who hath received most. The Author before he could accomplish this purpose, died; he was worthy to have lived longer for the advantage of Art and Learning. Thus the Book was left after his death to his Heir, who had a smaller estate than suited with the name of his Father, or his merit required, and his many watchings and labours sustained for the publick good, in curing of the sick, justly deserved. Fortune is blinde and will hardly favour those that are the best but against her will, as if it were disagreeing and dissonant that there should be any commerce between *Pluto* with *Apollo*, *Minerva* and *Mercury*. *Elizabeth* being departed this life, and *James* then holding the reins of the *British* Empire piously and justly, and ruling peaceably amongst the storms that at that time shook all *Europe*, having weeded out by his Majestick Scepter, and by the providence of his soul which was prudent even to miracle, all Monsters, which endeavoured to shake the foundations of the Kingdome by Treason, Deceit, Wickedness, Lust, and Wrath. The Overseers of this Orphan left in a very poor condition, were resolved to Dedicate this learned Work to this Noble Heros, who was no less famous for his Learning than for a concurrence of all Virtues that met in him: but great poverty at home, delayed the business, and hindred this windy intention from taking effect, and the off-spring from coming to the light. So the Book lay for a long time in obscurity under the custody of the friends of the Author departed, until such time as it was offered to me by *Darnellus*, who was formerly his Apothecary, and a very honest man, who wished well to his Master being dead, and was very desirous of his glory; so it lay for some years in my Study cast aside in the dust among Worms and Moths; truly it was no fault of mine, but of the Printers who were so greedy of Money, that though in many Countreys I invited them by my Letters, and did solicit them to receive the Orphan, yet they refused (as they said) to take upon them an unthankful business; they were not pleased with the benefit of a noble Art, unless it would pay more than the freight. O the times wherein the pains of learned men are valued at the price the work will be sold for, and the money that must be laid out for ink and paper, or by the depraved opinion of the vulgar (who commonly applaud what is worst) and not by the essence of the thing it self, or dignity of the subject, or the solid explanation of the same! Then there was an Epistle prefixed to the beginning which men call Dedicatory, which being it was to carry the name before it of one of the foresaid Princes, the Edition seemed to come forth unseasonably after they were both dead. Perchance some other man would have caught at this occasion, to have brought it to King *Charles*, the great Son of a great Father,

The Epistle Dedicatory.

ther, under whose fortunate reign in his Kingly person, all Kingly virtues run together in troops, each striving to have the upper hand) and kneeling down before his Majesty, would have offered unto him, in hopes of a reward, another mans Works vail'd with a false cover of commendations, or obscured with the great smoke of courtly eloquence. But I have no such genius, for though I have not lived hitherto unwelcome to Princes, yet I have learned by long practise, that we must use their favour soberly, and never to abuse their ears or eyes, and though you do know easie entrance and fit times to come into their presence, yet importunity is alwaies unseasonable, and especially that which hires mercenary Muses for money to set them forth, which are branded with marks of infamy. Do not think that I detract so much from this Work that I think it not worthy to carry the name of a King in the Frontispice, and might live in publick under the protection of so ambitious an Inscription; but I held it no less than sacriledge to name the childe in stead of another of my own accord, or to bring a deaf person upon the stage, as to what concerns the exposition of the Argument, and with other birds feathers in the very entrance of the work foolishly and vainly to pride my self: yet that the Book might come forth every way complear, and that the Reader who is a lover of the custome may not desire an Epistle, or complain that there is one wanting, according to my manner (wherewith I honour great men with the honour that belongs unto them, but my friend I respect above all, and that continually) I would prefix to this Natural and Physical History the famous name of some man, who by the common consent of the Learned, is well acquainted with both, and who is joyned unto me by no ordinary alliance, who is dear to all good men, and eminent for his own endowments; which office of Reverence and good will may testifie to posterity, in what esteem such men are with me, who are intrinsically furnished with the real tincture of manifold learning, but chiefly with that of the most noble Art of all, which I practise: so I have made choice of thee alone amongst many, that thou mayst be to me in stead of them all, Noble Man, my dearest friend *Paddy*, who art Knighted by the wisest Monarch *James*, who never did any thing vainly, who adornest thy Virtues by thy Titles, and thy Titles by thy Virtues, as our *Thorius* hath written of thee. Thou art he who after the wicked Parricide of Great *Henry*, formerly my most milde Master (which shall for ever convey the said memory of his age to posterity) when I was called by the most Serene *James* from the *French* Court by his own Letters, and by a guide appointed to conduct me into *Britain*, and was immediately honoured with the title of Companion of the chief Physicians, didst not look upon me with bleer and swoln eyes, with the viperous venome of envy; but thou didst entertain me, being a stranger, candidly, and with a cheerful countenance, (as it becomes one of noble Birth) contrary to that of *Horace*, who accuseth the *Britains* divided almost from all the world, of fierceness toward strangers. After that, in the many meetings we had amongst sick people, and in my practise in Physick, when I pleasingly hearkned to the opinions of those that consulted, weighed them, and as it belonged to my place, concluded what was to be done, thou didst hear me without brawling or contradiction, which is the imbred evil custome of some unworthy Physicians; and thou didst very often approve of my opinion, as consonant to reason. In the famous Colledge of *London*, (where as thou wert alwaies most worthy, so thou wert often President) when I was by the votes of the chieftest, and first of all by thy suffrage made a Colleague, according to the Kings Character for my place at Court, thou didst willingly suffer me to have the next place to our President: I farther add, that thou didst never oppose thy self to the many petitions or commendations that were offered by me to our most excellent Colleagues; but thou didst alwaies afford me thy ear to hear me, and thy hands to help me. Lastly thou didst alwaies praise me being absent, and as far as it was in thy power, of thy own accord, from the imbred motion of thy noble minde, thou didst defend my good name privately wounded by the calumnies of envious men, and torn by malice, (which is the condition of good, and of the greatest Princes) by that authority which thou hast amongst thy own Countreymen of what condition soever, and thou wouldst not suffer this scab of backbiting to proceed any farther. O most excellent Man! what shall I repay unto thee, who as a true Philosopher, hast no desire of vain glory, and such things as make a great shew and are vulgarly praised, sought for, and desired by other men, are now esteemed base with thee? My grateful minde, and most full of love towards thee, commands me to offer this small token to thee in testimony

The Epistle Dedicatory.

mony thereof, which accept freely and willingly, and suffer that by this sincere gift, that wicked saying may be disannulled, that men of one profession cannot endure one the other. God the best and the greatest hath granted unto thee long life, by a prosperous aspect of the Stars, for the good of thy Citizens, whose health thou hast preserved and restored by thy care for very many years effectually hitherto, that posterity must justly acknowledge that thou hast lived long, worthy not only of a Garland of oak, but a Statue of gold also, (if our times would afford such honour). Now thou well deserving Captain, discharged by age, thou Champion freed by reason of years with a token of honour, thou conqueror of monsters, that daily spring up with too fruitful an increase for the destruction of mankind, dwellest with thy self, thy soul yet sustaining thy dry body yeelding to wasting time by degrees very easily, which being defiled with no conditions of her prison, sees the Haven, and is almost come into it; thy minde being abstracted from the sad vexations of humane life: and what time thou hast to spare from divine Meditations, penetrating into all Nature, and the secrets of things, thou dost expatiate into the pleasant green Gardens of various natural Philosophy. Behold here is a most exquisite Garland for thee gathered out of the most secret Orchard of our great Parent, which will not only feed the eyes, but will lead the singular acuteness of thy wit, which thou aboundest with, into her most hidden places. Thou being an excellent Anatomist, I beseech thee try if thou canst dissect Insects; the great *Stagyrite* being thy guide, who did not disdain to search into the parts of Animals. Thou shalt finde in the little body of Bees a bottle which is the receptacle of Honey sucked from flowers, and their legs loaded with Bitumen which sticks fast to make wax. Also in the tail there is a horny sting full of revenging poyson, that is ready to draw forth as soon as the Bee please; but the King of the swarm is said to want one, for there naturally belongs to the supreme power, who can overthrow all when he will at his pleasure, and there ought to be an imbred gentleness, whence it is that Kings by their proper attribute are called Fathers and Pastors of the people. In Gnats you shall observe their sounding trumpet that will suck bloud out of Animals, and will draw out moisture through the joynts of the most solid wood, and wine-vessels. How wilt thou be pleased to see the small proboscis of Butterflies wreathed alwaies into a spiral line, after they have drawn forth nutriment from flowers, their extended large wings painted by natures artificial pencil, with paints cannot be imitated; to which the very Rain-bow is scarce comparable;

Which right against the Sun a thousand colours shewes.

What a pleasant spectacle will this be when the artificial hands carefully and curiously guide the most sharp pen-knife, and very fine instrument by direction of the sight! To behold the pipe of the Grasshoppers that live upon dew, and the organs of the shrill sound they make, that in the heat of the Dog-daies importunately beats upon the ears of travellers, which are so framed, that their concave belly is made vaulted under the Diaphragm, over which is extended a cover of a thin and dry membrane, like to a Drum, which lets in the air by an oblique turning, which being beaten by the regular and successive motion of their wings, and stomach coming in at a strait passage, and presently dilated, beating against the rough-cast wals of the hollow place, and refracted, makes a sound. To see the horns of the great Beetles, that are like to Stags horns, and with sharpest points are able to make wounds, and the muscles that move them, and tie them on exceeding fast. The Rhinoceros is of the kinde of great Beetles. The swelling purse which is the matter of the silk, and is wound back again into many turnings, by Silk-worms which are chief of all Caterpillers, of divers forms and colours: in which after the time destinated for the concoction of their food, which is gathered chiefly from Mulberry-leaves, a tenacious glew or jelly is reserved, untill such time as their ventricle swelling, and nature affecting to attain her end, the Worm by degrees belcheth forth her spittle, the thred whereof growing firm by the air (which is provided to make garments for great men) this little creature dispenseth through her very narrow claws, and spinning with the motion of her head and of half her body, with the kembering of it by the help of her forefeet; she first disposeth it for the strengthening of her clew of yarn, and after that upon her own sepulchre where she must receive her transmutation. How the Spider thrusts out her excrements by her lower parts of her body, which is drawn

The Epistle Dedicatory.

forth into a web, of which the poor creature frames nets with great labour, which are necessary to sustain her life; and with her long legs that end in sharp claws, she knits them into knots, being continually obnoxious to repair her work. In the uppermost cases of the green Locusts which feed upon hedges, there are two scales that are hard as horn, the mutual rubbing together whereof by the ministration of the air beaten with their softer wings, make a very sharp sound. The head of all of this kinde is armed, their hinder legs are hard, dry, long, by the vehement thrusting whereof against some firm object, with the help of their most strong tendons, they will cast their body a great way, being equally ballanced, and is heavy enough for the proportion of it, like an arrow coming forth of a bow; as it happens to Fleas that leap with a huge force. But which is yet more, besides their pincers which are as sharp as keen rasors, where is a direct passage from their mouth to their tail; the pylorus is compassed about with toothed bars, that answer one the other with a thorny gomphosis, wherewith they destroy whole fields with devouring fore-teeth, like chizels, and grinde them as it were in a mill, and very suddenly they void it forth again; their hunger never ceases until the vile creatures have consumed whole Countreys which God is angry with, divine revenge commanding them; and brings to nought that people, who ridiculously threaten heaven with destruction. You shall see the sharp spears that arm the mouth of the Spiders Phalangia, and by the small wounds they make, a strange venome enters, and penetrates into the center of the body, and sticks fast to the deepest marrow, lasting so long in the subject that receives it as the cruel beast lives; and is exasperated periodically at certain hours, troubling the phantasie of the persons wounded, which is abated with colours objected like to this Spider; yet it ceaseth not to rage, until musick causeth them to dance, and provokes them to sweat abundantly, whereby the paroxysm is dissolved, which the day following returns at the same hour. You shall behold the internal fire of Glow-worms fastned to their tails, and the torches of the Indian Cocuia that shines in the night, and overcomes Cimmerian darkness. And moreover, if you take lenticular optick Glasses of crystal, (for though you have Lynx his eyes, these are necessary in searching after Atoms) you will admire to see the dark red colour of the Fleas that are curasheers, and their back stiffe with bristles, their legs rough with hair, and between two foreyards there stands a hollow trunk to torture men, which is a bitter plague to maids, and is the greatest enemy to humane rest, especially when that men would sleep. You shall see the eyes of the Lice sticking forth, and their horns, their body crannied all over, their whole substance diaphanous, and through that, the motion of their heart and bloud, as if it floted in *Euripus*. There will appear to thee the flat bodies of the petulant Crab-lice, with their grapples, wherewith they perpetually lance mans skin between the hair with their mouth, and stick on faster than Cockles do to the rocks. Also little Hand-worms which are indivisible they are so small, being with a needle pickt forth of their trenches neer the pools of water which they have made in the skin, and being laid upon ones nail, will discover by the Sun-light their red heads, and feet they creep withall. And if from the inspection of parts you will recal your minde to consider the generation and beginning of Insects, and will weigh the various transmutations which they undergoe, as of Worms into Flies; of Catterpillers (the several species whereof have their original from the corruption of several vegetables) into Chrysallides, (that shine as if leaves of gold were laid upon them) and Butterflies, whose egges again produce an off-spring like Worms, Nature acting successively in a circle, and constantly by a perpetual motion running back into her self: you will doubtless enter upon a large field of Philosophy concerning three Kingdoms of the universal spirit, (the Vegetable, Animal, and Mineral) equally penetrating, replenishing, and governing, and upon the power and activity of it, introducing divers forms into beings that pertain to each of them, according to the disposition of the matter: also the commerce of all sublunary bodies amongst themselves will exercise your contemplation, which though oft times they seem to fight one against the other face to face; yet they agree in one, and from one the other, all and each of them borrow something. And if Animals and Plants be transmuted, why should that be denied to Metals? which thing, many genuine Ministers and legitimate helpers of Nature boast, and not without reason, that they can do it by Art: and that only by removing of impediments, and by a convenient application together of actives and passives; which being done, the Philosopher leaves the whole

work

The Epistle Dedicatory.

work to Nature only, which by a gentle outward heat, being helped without too much haste, doth raise up an internal fire; which is the Workmaster of the Elixir that must procure health and riches: that I may hiss out Asles, who triumphing in the Lions skin, erect a tumultuous and confused furniture in their Laboratories, and dig forth all things under ground from the very bottoms of Mines, and melt them in the fire, being desirous to make trial of their own dreams.

*Their Patrimonies they together pack,
Plying their hidden work with Coles full black;
When they have spent, and labour'd all in vain,
Nothing they finde, nothing they seek again.*

But passing over these blowers of the Ashes, if you be pleased to reason deeper concerning Insects; you shall finde what will exercise you in the Monarchical government of Bees, the Democratical of Ants, and the œconomical providence of them both: of that in gathering and laying up Wax and Honey: of this in replenishing her granaries, and biting asunder the grains of corn at that end where they spring forth, lest the provision which is gathered with hard labour, and laid up for winter, by the force of an imbred heat in their work-house under ground (which is hot whilst the Winter lasts) should corrupt, being spoyled by a sudden production, and a plague arising, together with a famine overspreading, should destroy the whole nest. Nor can you lightly pass over the Architecture in framing the cells in the combs of wax, mathematically to an exact Hexagon; in the hollow places of a Wasps nest; in the various chambers of the Ant-hill, and winding Meanders: in the joyning together whereof he saw granaries, chambers, hospitals, places of burial, besides the innumerable endowments of these indefatigable creatures, their functions and labours, and he could not admire or praise them sufficiently, who had spent a long time in the contemplation of them, thinking it a work worth his pains, his whole life past being employed in this negligent and very idle business. Silk-worms, all Caterpillars, and Spiders, shew their art in spinning, making snares for Flies, and pitching their nets to provide themselves victuals. The Wood-worms practise graving, with the rasp of their mouthes piercing into the timber: Ants and Bees, amongst other Insects, will teach men piety toward old men, tired, sick men, and their own children: Oyl Beetles sacred to *Apollo*, will teach them to love their off-spring, who never cease for 28 daies to rowl up and down a dung-pil, (which is the receptacle of their seed) from East to West, following the Suns motion, until it be fit to hide in the ground for the production of their young, after the space of a Lunar month, which nature hath assigned for the forming, and excluding of this Worm, which shall at length become a Fly. Here take notice that the male hath a prolifick seed without help of the female, and can generate by it self putrefaction of fit matter interceding in a convenient matrix, though it be not animal. But (that which crowns all the meditations of a Christian man, and carrieth him aloft) consider how the Silk-worm makes her self a tombe, that is unpassable, by reason of her woven work that is most compacted within, in which the Worm contracted into it self seems to die, and by a prodigious metamorphosis it is born anew a Butterfly, a more noble creature, which by the weaving of its wings flies up into the air toward heaven, whereas before its burial it lived a base creeping creature fastned to the earth, and glued to the food of the ground. See whether a little beast that is obscure, of the kinde of Locusts, living amongst the stubble of the fields, when she is consumed with extreme leanness (which from the posture of one that is praying, the *Frenchmen* of *Narbon* call *Pregadien*) do not teach men to hold up their hands in prayer unto heaven, and admonish them to observe a convenient gesture in offering up their supplications unto God. What think you of the greater Beetle, the *Indian* Rhinoceros, which being bred without a female (as the rest of the like kindes are) dies, and riseth again out of her own corruption, like a *Pœnix*, after her change, when she was supposed to be wholly dead. Lastly, what think you of Flies, which when they are drown'd many hours in water, if you bury them in hot embers, you shall revive them again. Truly I doubt not but that amongst those serious cogitations, (the object whereof will seem not so serious in respect of other false appearances of men, that are illiterate and unreasonable) thy minde may rise to its original, and fastning thy eyes on heaven inspired by
God,

The Epistle Dedicatory.

God, wilt cry out, O the depth! and with the divine Psalmist wilt return a Psalm of thanks to the Maker of Nature: *How wonderful are thy works O Lord! In wisdom hast thou made them all, the earth is full with thy possession.* So shall I have whereby I may rejoyce, that however the whole course of thy age hitherto hath been but one continual act of Philosophy, yet that by the rare advantage of this Present which is curious with variety, I have given thee a new occasion of no less solid and profitable, than of pleasant and ingenious meditation. Suffer therefore that a friendly hand may convey into your Library the Off spring of the most learned *Mouffet*, which is now at last published and brought to light, and amongst so many volumes wherewith thy Study shelves are most excellently furnished, assign a place for it, worthy of the Father and the Son. Besides the good things mentioned that shall from thence accrew unto thee, and the very great increase thou shalt reap from the hours thou shalt spend in reading the Book, (if I may jest with thee) thy own profit shall not want its advantage, lest thy proper benefit should here seem to be neglected. In these leaves thou shalt finde what will drive away the plague of thy delights, those beasts that are the greatest enemies to the Muses & their darlings, I mean the Moths that devour Books, which with a greedy belly and iron teeth (though their bodies be very smal) prodigally waste and rend the lucubrations of whole ages. Let those evil beasts that are the most deadly mischiefs of angry nature be destroyed after an ill manner: to prevent the propagation whereof, and to kill their infamous progeny (whilest in the mean time learned writers of Books endeavour to abolish their kinde utterly, or their sedulous Collectors do what they can) this Book (which I send to thee as a remembrance of my love, will teach thee in the Chapter that treats of it. But let it suffice, I began with a small pitcher, why should the wheel run till it fill an Amphora? The heat of good will and fruitfulness of the subject carry me away; I must now take off my hand, lest my Epistle should proceed absurdly beyond the bounds, which already unawares hath increased into a volume. Believe that I am affectionated to thee, and how well I wish and desire to thee, these lines I have written may speak. What remains of thy daies which God hath appointed thee to run the race of thy life, before thou receive thy heavenly reward, I wish thou maist finish without any pain of minde or body; and that I may speak with *Aristotle* writing his last Testament, I pray from my heart, that thou maist live longer here, *for it is well, but if any thing happen*, that thou maist safely arrive and enter gloriously into the harbour of the blessed at the moment decreed. *Farewel.*

From my Study in the Ides of May, and the year
of Mans Redemption, 1634.

A Preface upon the undertaking of this Argument ;
and of the worth and use of it.

THat the History of Insects is worthy of the chiefest Philosophers, the pains of great Aristotle, and Pliny, and of our Wotton in describing them doth sufficiently demonstrate. After their time Conradus Gesner laboured not unfruitfully, to perfect that work which they began; but by reason of his short life, he fainted in the beginning of the race, nor was he able to put an end to it. But when Pennius of blessed memory met with those papers by a better fate, for fifteen years together by infinite reading of all Authors, he enriched the History by the exceeding great help of Quickelbergius, Clusius, Camerarius, Sir Thomas Knivet, and of his most learned brother Edmund, Jo. Jacob, Roger Broun, Brite, but chiefly of our Bruer; and some courtesie of Peter Turner. That is to be lamented, that he also was taken away by untimely death, before he had disposed of the matter and framed it to the dignity of this work, which he had heaped up together on all sides; Hence it was that his Letters were full of blots, and confused with doubtful Characters: and they had perished, had not I laid them apart, when they were ready to be cast out of doors; and with a great sum of money had redeemed all the torn pieces of it. For I had rather something should be taken off from my own estate, than from his glory, who had spent so much pains in the description of Insects, and so much money for the Plates engraving; wherefore this Mans and Gesners and Wottons fragments being disposed in order, adding to them the light of oratory which Pennius wanted, I forged the History, and according to my abilities, (which I know how small they are) I at last brought it to a period. At first I was deterred from it by the difficulty of the work; because I saw that Insects are hard to be explained, both in respect of the unusualness of the subject, and also of the sublime or rather supine negligence of our Ancestors in this point: for they stood still in the very entrance, and they saluted them only by the way, or as the proverb is, at the threshold of the door. I also feared that (which fell out it may be) lest there should want dignity of oratory, for so exquisite a Narration; chiefly when as I oft observed Pennius to be gravelled here, and I seldom went to those that were Artists of words. Also for a time I was detained by examining the causes of Insects; which being unknown, the History can neither be well pen'd, nor rightly conceived. Moreover friends checkt me (and that sharply) that I did but rough-cast another mans building; as though I were one who sought for the Garland in every business, and thirsted after glory more than it was fit for me. They said moreover, that since some worthy honest and profitable end must be propounded to every business that is rightly undertaken, yet none of these was to be found in these imperfect creatures, but I should lose my time, charge and labour exceedingly. By these hinderances I was as it were made fast to an anchor, and left off for a short time to sail any farther: and sometimes taking up my pen, sometimes casting it away again, I was in divers mindes, until that certain reasons allayed these stormings of my thoughts, and did again kindle, as it were, a desire in me to hoise up sail again. I opposed against the difficulty of the work, the desire of attempting things that were very difficult; remembering that for nine years Troy seemed to be impregnable, but was taken in the tenth year it was beleaguered. As for the dignity of the style, I was perswaded that men of a sound judgement would not consider how neatly, but how well I discovered the nature of Insects; for however some mens vain wits, desire much affected eloquence, yet those that esteem of things soberly, altogether reject it. I put off the ignorance of the causes, with the answer of Theophrastus, who though he sunk under his too earnest enquiring after them in plants, yet he did not conceal so profitable a History. It shall suffice us to have measured the causes by humane capacity and mete-yard; for as it is the part
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The Preface.

of an ambitious man to promise a certain knowledge of them which is only in God, so to have no knowledge of them at all, is the part of a beast. The example of Galen, took away from me the fourth scruple I had; who though he added to Hippocrates but a few things, except the grace of Oratory, and did only open that way of Physick which he had set down, yet is he so placed in the second rank amongst Physicians, that many think him worthy to have the first. Which thing I have not only done in this book, (I am willing to speak the truth concerning my own work) but I have inserted intire Histories, and above a hundred and fifty pictures, which Gesner and Pennius knew not; I have mended the method and language, and I have put out above a thousand tautologies, trivial matters, and things unseasonably spoken: for I have had regard to the squeemish stomachs of men of this nauseating age, that not only loathe Coleworts twice sod, but even Ambrosia twice set upon the table. Notwithstanding how small soever this my pains may appear, (for it cannot be thought no pains) he that shall make trial in something of this nature, he will rightly perceive my labour, and will of his own accord take heed how he go to repair old and decayed houses, with new matter; it had been better to have written a new History than to have mended this which was so tattered and confused. As for vain glory, I desire it may be as far from me, as I wish the light of this History may be near to you. I confess that not to love honour is contrary to mine, and all humane nature, yet so that I hold boasting to be amongst the greatest vices, and I equally reject foolish ostentation in small matters. Socrates, Plato, Hippocrates, have taught us better, who in their times both writ many things, and were exceeding far from the ambition of glory. I know not whether they are to be numbred amongst men most desirous of honour, who publishing nothing of their own, make unlearned men to conceive of them, that they abound with hidden learning; as if they were like bottles forsooth, that were so full, that they drop very slowly or not at all. I shall add this concerning the dignity of this History of Insects, (lest we should think God made them in vain, or we describe them) that in the universal world there is nothing more divine than these, except Man. For however in shew they are most abject and sordid, yet if we look more nicely into them, they will appear far otherwise than they promise in the bare outside. It oft times comes into my minde (saith Gallisardus) to think of our Italians, who commonly admire vehemently things notable for magnitude, or new and unusual; but things obvious in all places, and that are very small they despise; yet if they look exactly to the matter, it will be easie to observe, that the divine force and power shew themselves more effectually in mean things, and they are far more miraculous, than those things the world with open mouth respects so much and admires. If any man bring from far the wonderful Bittour, Elephant, Crocodile, there is no men but runs quickly to see that, because it is a new thing and unusual; and when they have leave to see them as much as they will, they only wonder at their greatness, colour, and such things as fall under the apprehension of their senses. But no man regards Hand-worms, Worms in Wine, Earwigs Fleas; because they are obvious to all men, and very small, as if they were but the pastimes of lascivious and drunken Nature, and that she had been sober only in making those huge and terrible beasts. Nor is this vice peculiar to the Italians only, but it is common to the English and to all mankind; who that they may see those large beasts that carry towers, the African Lion, the huge Whale, the Rhinoceros, the Bear and Bull, take sometimes a long journey to London, and pay money for their places on the scaffold, to behold them brought upon the stage: yet where is Nature more to be seen than in the smallest matters, where she is entirely all? for in great bodies the workmanship is easie, the matter being ductile; but in these that are so small and despicable, and almost nothing, what care? how great is the effect of it? how unspeakable is the perfection? as Pliny saith. Do you require Prudence? regard the Ant; Do you desire Justice? regard the Bee; Do you commend Temperance? take advice of them both. Do you praise valour? see the whole generation of Grasshoppers. Also look upon the Gnat (a little Insect not worth speaking of) that with her slender hollow nose will penetrate so far into the thick skin of the Lion, that thou canst hardly or not at all thrust a sword or javelin in so far. A man hath need of steel to bore into oaks, which the Wood-worm eats hollow with her teeth as the sound can testify, and as if she had Polycletus his graving instrument, she carves out scales. But if I would relate the skill of some of them in building, fighting, playing, working, perhaps I might be thought over-curious in these small things, (of which the Law takes no notice) and

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The Preface.

more negligent in greater matters. Now I come to their use, and that manifold, and in respect unto God, to Nature, or to Man, very great. For if the Gentiles according to that saying of the Apostle Paul, Know God by the creatures: truly they may hence, as from a higher watch-tower behold his Omnipotence, Majesty, Providence. For some of them are so small, that like those lines Callicrates drew, they cannot be seen but with good eyes, and when the Sun shines very bright: as I remember I once saw a Fly far smaller than a Worm in wine. Would you have a Musician? hearken to the Grasshopper, which is alwaies filled with singing, and lives without meat; and by her most pleasant melody challengeth the Nightingale. Would you hear a Trumpeter? hold your ear to the Bee-hive, hear the humming noise: hearken a little to the Gnat, in whose small beak the great Master workman hath formed that horrid and clanging sound of the Trumpet. Do you despise a Lowse? yet when the Egyptian Magicians deceived Pharaoh by producing the greater creatures, in the forming of this so contemptible a creature, they yeelded the garland to Moses. Wherefore Galen (17. de usu partium) breaks forth rightly into these words, after he had explained the wonderful generation of hairs, and the use of them: saith he, If there be so divine vertue in parts that are so sordid and nothing considerable, how great may we suppose the excellency of the same is which rules in the heart and brain? Truly if a man that is addicted to no sect, would freely enter into the consideration of things, considering the fabrick of any even the smallest creature, and that in every part though never so base, so great vertue resides, he shall easily understand the excellency of the minde which is in man, and from the principles in physick shall ascend to Divinity, which is far better and more excellent than all Physick. I suppose that no nation nor society of men amongst whom there is any Religion of the gods, have any thing comparable to the Eleusinian or Samothracian Ceremonies; yet these do set forth but obscurely the minde of all things which they profess; which is plain enough in the fabrick of all living creatures. For you must not think that in Man only the Art of the great Artificer is so great, as I have explained before, but what creature soever you would dissect, you shall finde the like art and wisdom to appear in it. And such creatures as you cannot possibly dissect, will make you to admire the more, the smaller they are. For if a certain Carver lately obtained exceeding great commendations, and that deservedly, because on a very small Ring he so curiously engraved Phæton riding in his chariot with four horses, that you might see their mouthes, bits, teeth, 16 feet, and all their parts exactly framed: truly since all that workmanship had nothing in it more excellent than the leg of a Flea, it is evident that God that made the Flea, hath more Art and Excellency in him, that not only made it, but that he did it without any labour, and when he hath made it, doth continually feed and nourish it. Wherefore let us leave off to admire any longer the vast and huge Colosse, and with the chief Master of true wisdom, let us descend from the Cedar to the shrub, that is, from the most highest trees to the most contemptible weeds, or rather the most abject of all vegetables. And if he thought that the history of the meanest plant was not unworthy of a King to contemplate and write of, how much more excellent are Animals than Plants, so much more doth this work deserve the patronage of a King, and philosophical contemplation than that doth. When Heraclides had invited some of his friends to his poor Cottage, they stood only before the door, being afraid to come in because the place was so narrow, or the room so foul: to whom he spake thus: I pray come in, here are Gods also: thereby implying that the greatest God was in the smallest matters; and that there was a spirit in all things, though never so despicable. And truly, if the fabrick of Insects were worthy of so great and divine Artificer, how can the contemplation of them be unworthy of the understandings of poor contemptible men? Amongst the souldiers of Palestina, God raised great Goliath, a Giant amongst men; yet would he have him overthrowen by the sling of one poor shepherd. Amongst the Spanish Pilots, how many tall Mariners there were? yet they all submitted to one small Drake, and Neptune himself in a manner yeelded up his Mace to him. The Oke is great, and growes very large; but God destroys it by the slender Ivy that clings about it, that it might not grow proud of its force and might. Farewel then all those that so much esteem of creatures that are very large. I acknowledge God appears in their magnitude, yet I see more of God in the History of lesser Creatures. For here is more of prudence, sagacity, art, ingenuity, and of certain evident divine being. Wouldst thou praise Nature, Gods ordinary hand? from whence

The Preface.

Whence wouldst thou take thy beginning better than from Insects? for where hath he planted so many senses in a Gnat? where (saith Pliny) hath he set the eyes? where the smelling? with what curiosity hath he fastened the wings? with what great art hath he extended the small legs? and disposed the hungry hollow belly, and hath made it thirsty after mans blood? and as the small beak it hath cannot be seen, he hath so made it double by a reciprocal art, that it should be sharp pointed to enter, and hollow to draw it forth. I let pass that admirable variety, comeliness, and fecundity that is in Insects, which commend the riches of quickning Nature in greater multitudes, and set forth unto us the great plenty of it, which cannot be exhausted. If you consider men, as they cure almost all the diseases of mens bodies, (as I shall declare more at large in their History) so they furnish their mindes with variety of examples of vertues, whereby they may instruct their souls, and teach them, that otherwise would be very wicked. Wherefore Solomon the principal Master of true wisdom amongst men, sends sluggards to the Ants hill, and tumultuous people to the bands of Locusts, and incites mortal men to the contemplation of the Spiders in their houses, that from the School of Insects we may learn vertue, and may lift up our eyes unto the power of God, which are too much turned away from him. Go so, saith Tertullian, O Man thou reliest upon thy own strength, and distrustest God, yet consider that there is so great strength in the smallest creature he hath made, that thou canst not endure it, nor ever be able to do as much. Imitate if thou canst the Spiders curiosity, endure the sting of the Spider Phalangium, avoid the nastiness of Lice, take a Gnat out of thy throat, sleep when Fleas or Wiglice bite fiercely, keep thy trees safe from Caterpillars, drive away Weevils, Trees-worms, Vine-worms, and Timber-worms: wherefore as God shews his power more in this more notable Artifice of Insects, so his great mercy is more apparent, because there is hardly any disease of the minde or body, but a remedy may be fetcht from this store-house to cure them both. If men should deny that they contribute very much to feed, and fat, and cure many other creatures, Birds and Fishes would plead for them, and the brute beasts that feed on grass would speak in their behalf: wherefore though with many every thing that is new, or hard to obtain, is most valued, and this is accused by the perverseness of wicked men, and ignorance of unlearned men, to be a work of curiosity, ostentation, and of no profit,

Yet see its shape of things that are so small,
Nature, and Fate, and great originall.

Wherefore I exhort those chief men, which I named at the beginning, who have deserved excellent well in the History of Insects, by communicating both the things themselves and their pictures, that with that humanity they have been assisting to me, and to Pennius hitherto, they would continually proceed in the same for the augmenting of this work: for so shall they be truly accounted, as they are, Physicians sons, and shall most amply set forth the glory of God and Nature. To which if I may appear to have had as much regard as I have had to the certain profit of men by this work, I shall not regard the envy of any man; for I never studied to please all men, and yet I alwaies endeavoured to offer unto the Creator of all things, some part of thankfulness.

THE THEATER OF INSECTS: OR, Of lesser living Creatures.

CHAP. I.

Of the Names, Description, and Differences of Bees.



Of all Insects, Bees are the principal and are chiefly to be admired, being the only creature of that kinde, framed for the nourishment of Man; but the rest are procreated either to be useful in physick, or for delight of the eyes, the pleasure of the ears, or the compleating and ornament of the body; the Bee doth exceed them all in every one of these.

Hebrewes, *Deborah*.

Arabians, *albara Nahalea Zabar*.

Illyrians, *Wexiela*.

Italians, *ape, api, una sticha, moscatella, ape a scoppa, pecchi*.

Spaniards, *Abeia*.

They are called by the French, *mouches a miel*.

Germans, *ein ymme bynle*.

English, *Bee, bees, been*.

Flandrians, *Bie*.

Polonians, *Pzczota*.

Irish, *Camliu*.

The Grecians give divers names to Bees, according to the diversity of Nations, Countreys, and places; for divers nations do attribute divers names to them. But the most common and vulgar name is *μέλισσα*, (but *Hesiod* calls the Bee *μέλισσα*) because they are busied in their work, *ἡ μέλισσα τὸ μέλι*; or because of their sweetness, or rather *μέλι τὸ μέλι*, in regard of their honey, in making of which the Bee is a cunning artificer. For they are *μέλισσαι*, from *μελέω*, because there is no Insect more studious, more industrious, and laborious. *Hesiod* calls them *πυγμαλίσσαι* as also *ἀνδρῖναι*. *Gesner* had rather read *πυγ* for *πυρ*, for it is also called *ἐυδότης*. But *Suidas*, *Aristotle*, and others, do rather make it a Hornet or a Wasp. Although *Gaza*'s interpretation, and the Poets do call it *Apis* a Bee. *Stephanus* calleth them *σμελίδαι*, whence *σμελίδω*, that is, I do hive Bees. *Hesychius* calleth one kinde of Bee *φάειον*, and others call it *πλάστιν* from its framing. They are called also from their destroying of flowers *ἀνθοκτόναι*, that is, destroy-flowers; or *ξανθοί*, that is, yellow, from their natural soyl and seed *βουβώνες*; and in regard they have blunter stings than Wasps, *αἰμα*, and from the sound and buzzing noise of their wings *βομβύλοι*, *βομβύλαι*, though some in *Isocrates* do interpret the name by Gnats, when he writeth that some have writ in the praise of *βομβύλοιον*. But *Bombus* is properly the noise Bees make: *αἰμα*, among so many significations, saith *Hesychius*, *Εἶδος μέλισσας αἰκάντας*, a kinde of stinglee Bee; *Isidorus* calleth him the King or Emperor of the Honey-rents. In respect of his common inheritance, he

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The Name

is called *αἰεῖδον*, an airy inhabitant; in respect of its countrey *ἄλυσον*, as it were the Trojan wood-pecker. The Bees receive also divers appellations and names from their offices and employments, as some are called *ἡγεμόνες*, from their command; some *Ζεφύριαι*, from their sweet singing; some from their work, *ἐργαστοί*, and some are called *πλάστιδες*, or Potters, in regard of fashioning of their combs, or their emplastring of their waxen houses, wherein the Bees do secure themselves from the injury of the wind and rain. The Latines call these Insects by one name, *Apes* or Bees. *Varro* calleth them sometimes Birds, but improperly, for they are flying creatures but not Birds. Some think they are called Bees, because their swarms do cleave together by the feet, like a bunch of grapes. And beside the most conceive that this name of *Apes* is compounded of *a*, a privative particle, and *pes*, a foot, as if they were produced without feet, as *Virgil* saith, *Trunca pedum primos*, that is, lame or deprived of feet. *Servius* is of the same opinion. And truly the new fresh brood (which the Grecians call *ἄλυσον*) do want feet, but in the time appointed by nature, out of the crusty and waxy comb the Bee doth creep forth. But in regard it keepeth not this analogie of the name of *Bipes*, *edis*, *Tripes*, *edis*, *compes*, *edis*, the name is more simple, from whence comes the Diminutive *Apicula*, or a little Bee.

Apes or Bees
whence so cal-
led.

The Definiti-
on of the Bee.

The Bee is an Insect living creature, four-winged, bloudlesse, skilful only in his artificial making of honey. For he that writ *the Garden of Health*, seemed to dote much, by confidently affirming that Bees were four-footed beasts, for Nature only bestowed on them four feet that they might go upright, and not more, lest it might hinder their flying. But omitting this futile Author, let us more amply describe this most profitable and wise Insect.

The Descrip-
tion of the
Bee.

Their eyes are honeyey and made inwardly, and so is their sting, neither do they want tongue, and teeth; they have four wings, which are dry (as those of all other Insects) shining, and fastened or joyned to their shoulders, the last whereof are the least, that they might not hinder their flying; two claws as it were growing forth of the ends of their little feet, between which in stormy weather they carry a stone to poise and ballance their light bodies, lest the impetuous violence of the wind should drive them from their houses; and therefore we need not give credit to *Lucian*, that they ought to be called *Ζῷα ἀπόδα*, footlesse creatures. They do not breath (by *Pliny's* favour) but pant, and are refreshed by transpiration. Their stomach is framed of the most thin membrane, wherein they not only conserve and keep their collected honey, but concoct, and purifie it; which is the reason that Bees honey may be kept longer then any Manna or aerial body, or rather is altogether incorruptible, as we will shew hereafter.

Aristotle 9. *Hist. cap. 10.* saith that there are nine kindes of Bees, six whereof are sociable, and do live together, as Bees, the Kings of Bees, Drones, Wasps, Hornets, Moths. Also three solitary and inociable, the greater Siren, the lesser Siren, and the Bumble-Bee; of which kinde *Simius Albertus* does reckon up nine, but gives them such harsh and barbarous names, that it seems he rather faigned them, than knew them. *Lib. 8. tract. 4. cap. 2.*

But Bees do differ, and are distinguished in regard of their matter, form, wit, disposition, and office, and these are all their genuine, and natural differences, which I have collected out of infinite Authors. Concerning their matter (if we may credit the curious searchers into the works of nature) some of them are called *λεογονίαι*, or the Lions brood; others *ταυρογονίαι*, the Bulls brood; and some *βόπυδιαι*, or the Oxe brood; and some *μοχογονίαι*, or the Calves brood. But the best and noblest bees are generated and bred out of the Lion, and the Kings and Princes of them do derive their pedigree and descent from the brain of the Lion, being the most excellent part of his body: it is no wonder therefore if they proceeding and coming from so generous a stock, do assail the greatest beasts, and being endued with a Lion-like courage, do fear nothing. The noblest Bees next unto these, are those that are generated out of the Bull, being also a strong and valiant beast, the excellency both of their disposition and bodies being equal to their stock and pedigree. The next are the Cow-Bees, or Oxe-Bees, which are indeed very industrious, laborious, and profitable, but of a milder disposition, and lesse inclinable to anger. The Calves carcase doth generate more soft and tender Bees, excellent makers of honey, but not able to endure labour, in regard of their tenderness, and in regard of the weakness of their matter short lived. Some also do write, that Bees may be bred out of their own ashes sprinkled with honey, and laid forth in the sun, or some warm place, which sort may be called in Greek *αὐτοπαίδες*, or Self-begetters. Bees of the best shape are small, variously coloured, round, and bending; the worse shaped are long. The difference of their formes and shapes ariseth from four causes; Nature, place, sexe, and age. For some are domestick, or house Bees; others are wilde or wood Bees, these delight in the familiarity and company of men, but not the other, which do exercise themselves in making honey in trees, clefts and crannies of the earth, and in the rubbidge of old houses and walls. Again, some of the tame and gentler sort of Bees, do live in pleasant gardens, decked and beautified with all sorts of flowers, these are great, soft, fat and large bellied: others are kept in villages, going far for their food, and feed on flowers they light upon by chance. The lesser more hairy, yet for their work, industry and skill, they exceed the other. Of both kindes some are bred with stings (as all true Bees are) and others without stings, as the bastard Bees, which have a greater and softer belly, throat and body, but not famous either for manners, or ingenuity. They call this kinde of Bee the Drone, because they seem to be

The difference
of their shapes
from nature.

be laborious, and are not; or because under the colour of labour (for they sometimes carry wax and diligently fashion their combs) they devour the honey. And these are of a black shining colour and larger bodied. Moreover some bees are descended from their Kings and Dukes, whereof *Aristotle* maketh two kinds. The yellow, which is the best, and the black streaked. Others do reckon three Kings, differing in colours, black, red, and spotted, or streaked. *Mencrates* doth report, that the divers coloured are an inferior sort of Bees; but those streaked and diversified with black, are the better. All of them are twice as big as other Bees. He that is elected Monarch or King of the whole Swarm, is alwaies of an excellent shape and twice as big as any of the rest; his wings are shorter, his thighs straight and strong, his gate loftier, his aspect more stately and majesticall, and on his forehead a white spot like a shining Diadem or Crown, differing much from vulgar Bees in regard of his shining colour. But the place doth alter, sometimes their form, and sometimes their nature, sex also and age do change them in both respects. For in the *Molucco* Islands Bees are like to winged Ants, but somewhat lesser than the greater sort, as *Maximilianus Transylvanus* in his Epistle to the Bishop of *Salisburg*, eloquently relateth: In *America* near the Rivers of *Vasses* and *Plate*, the Bees are not like ours, being no bigger than those small flies which trouble us in summer, they build their nests in hollow trees, and they make far greater combs and fuller of holes; the end or tip of their wings (as *Oviedus* and *Thevetus* relate) seem to be bitten or cut off, in the middle whereof they have a white spot, and they have no offensive stings. The wax which they make is of a dusky pitchy colour, and they are for the most part evil conditioned. *Aristotle lib. 5. hist. cap. 22.* mentioneth a certain kinde of Bee, that is of a soft industrious nature, which maketh honey twice in a moneth, being of a gentle pleasing disposition, and busied only in making of honey. Such there are also in the Countrey of *Peru*, which do make a soft and melting kinde of honey, which do stop their doors so close with wax, that they leave but a very small hole for their ingresse or egress. But almost all our Bees in *Europe* are of a blackish colour, not so much in regard of the easie concoction of thin substance, than that they seem to be of a grosser diet, and of a thicker compoſure, and therefore the thicker matter doth remain within the skin, which the Bees of *Peru* and *Pontus*, by reason of their thin skins, and the finenesse of their dewy nourishment, do easily thrust forth; unlesse that be the cause, we must ascribe the variety of colour, to wanton nature: as we do for white bears, and white black-birds; which seeing she her self is various and of many shapes, it is no wonder, since she delights in variety of colours that she hath not made all Bees of one colour. The kinds of common Bees, (as *Columella* observes out of *Aristotle*) are thus distinguished; some are great, round, black, hairy: others are lesse, round, of a dark colour, rough hair: there are yet others lesse than they, and not so round, but more fat, of a straw colour on their sides: there are some least of all, very slender, sharp, whose bellies are various coloured from yellow, and very small. But the blackish are most to be approved of, that are very little, round, lively, shining, gentle, having (if we credit *Virgil*)

Their bodies shine with equall spots of gold.

The greater Bees are, and fatter or longer, the worse they are: and if they be fierce and waspish, they are worst of all. But their anger is pacified by the daily company of their keeper, and they are made more tame with the only tinkling of brasse. The Bees called *Chalcoides* in *Crete*, are of a brazen colour, and something long, and are said to be very implacable and given to fighting, exceeding all others in their stings, and pricking more fiercely; so that they have driven the Citizens out of the Towns by their stings. And *Ælian* out of *Antenor* relates, that in the Mount *Ida*, the remainder of that race, dwell and make their combs. Such are also the Bees at *Carthage* like to Muskitos. *Pausanias* writes in *Articis*, that Bees are so gentle in *Halizomus*, that they go forth to feed amongst men, and wander where they please, for they are shut up in no hives; wherefore they make their works every where, and that so fast, that you cannot part the honey from the wax. They are smooth, shining, of variable colours, and not unlike to our good Bees. Lastly, since all Bees are by nature void of poyson, yet the place causeth the long Bees, and the distaffe fashioned, about *Carthage* in *America*, to make venomous honey; where they collect honey that is infected with the contagion of trees, winds, air, and earth it self; and be it what it will be, they lay it up in their cellars. Also Bees subterrestrial have another form and nature. For those that work in hives and trees, are greater, longer, softer, better wing'd, more yellow on their backs and bellies. But they that are under the earth build in little holes, and are short compacted, with black heads and foresails, hairy almost on their whole body; a yellow down colour on their sides and rump, and that doth much adorn them. Of Bees, some finde themselves houses in woods, some are received into houses made of straw or horn; some civil and well nurtured Bees, who will not refuse the care of the Bee-master who hath skill, but will much love and delight in it. The prince of Philosophers confounds the sex of Bees: but most writers distinguish it: some say the females are the greater, and without stings; others say they are lesse and have stings. The founder Philosophers, (whose opinion I follow) acknowledge no males but their chief leaders, which are more strong, greater, more able, and alwaies stay at home for propagation, and seldome go forth but with the whole swarm; whom nature hath commanded to be frequent in Venus occasions, and ordained them to stay alwaies at home

The difference of their minds from the place.

Differences of the corporeal form from the place.

Difference from their Sex.

with their females. Experience witnesseth, that these do foster their young as birds do, very diligently, and sit upon them, and thrust forth their young Bees, when the membrane is broken. The differences of their Ages are known by the habit of their body: for those that are new come forth have most thin and trembling wings; those that are a year old, as also, of two or three years old, are very bright, neat, and are of the likeness and colour of oyl; but at seven years old they lay aside all fardness and smoothness; nor can any one tell certainly by their figure and quality of their skin and body (as it useth to be with horses) how old they are. The elder of them, are hairy, hard, full of wrinkles, lean, rough to your sight and feeling, long, starveling, and noted by a venerable kinde of hoariness. And this was shewed to the Dutchesse of *Somerset* when I was a youth, under whose chamber window there was the very same hive of Bees that had been there 30 years, and this justifies *Ælians* relation of the same kinde. But as they appear more ugly in form, so are they before the rest in industry and experience, for years have taught them skill; and by length of time and practise, they know better how to gather and make honey.

CHAP. II.

Of the Politick, Ethick, and Oeconomick virtues of Bees.

BEES are swayed by sovereignty, not tyranny, neither do they admit of a King properly so called, by succession or by lot, but by due advice, and circumspect choice; and though they willingly submit to regall authority; yet so, as they retain their liberty; because they still keep their Prerogative of Election; and when their King is once made sure to them by oath, they do in a principal manner love him. He as he doth excell all the rest in portlinesse and feature of body (as is above said) so likewise (which is the chief thing in a Prince) in gentleness of behaviour. For although he hath a sting as others, yet he never useth it to punish withall, inso-much that some have thought that the King is without a sting. For their law is the law of nature, not written but imprinted in their manners; and they are yet more gentle in punishing, because they have the greater power; and although they seem somewhat slow in revenging private wrongs, yet suffer they not the refractory and rebels to go unpunished, but wound and stab them with their stings. So desirous they are of peace, that neither with their wills nor against, do they offer any annoyance. Who would not then utterly abhorre the *Dionysian* Tyrants in *Sicily*, *Clearchus* in *Heraclea*, *Apollodorus* the *Cassandrian* Robber? Who would not detest the villany of those close Parasites to Kings who affirm that Monarchy is no other, but the means how to accomplish or satisfy the will, and a device how to maintain lust? that which ought to be far from a vertuous Prince, lest while he would seem to be a man, he betray himself to be worse then these little winged beasts.

And as their manner of life is not pedantick or according to the vulgar sort, so neither is their birth. For the royal Race is not begotten a little worm at the first, as the Bees are, but presently able to fly.

And if he chance to finde amongst his young ones any one that is a fool, unhandsome, hairy, of an angry disposition, ill shapen, or naturally ill conditioned, by the unanimous consent of the rest, he gives order to put him to death, lest his souldiery should be disordered, and his subjects being drawn into faction, should be destroyed. He sets down a way to the rest, gives order what they shall do, some commands to fetch water, others to make honey-combs within, to build them up, and garnish them; othersome to go and get in provision: those that are stricken in years he cherisheth at home, the younger he exerciseth in labour and vicissitude of employments; and although he himself hath immunity from mechanick labour, yet as cause shall require, he also refuseth not to work; nor ever doth he go abroad but for healths sake or necessity. If he be by reason of age in health, he marches as General in the Vantguard of his Army, and in person opposeth himself to all encounters; neither is he born by his attendants willingly, unless it be when he is so old and diseased that he cannot either go or fly. When night comes on the signal being given by the Trumpeter, the common sort are commanded to their lodging and the watch being set, every one betakes himself to his rest. As long as the King lives, all the swarm enjoyes peace, and all things are in quiet; for the Drones keep themselves willingly in their own cells, the elder Bees are content with their own places, nor do the younger run out of their own into the elders lodgings. The King lives apart from the rest in a more eminent and large palace, with a waxen fence curiously made, compassed about as it were with a kinde of wall. A little way from him dwell the Kings children, to whom if their father or mother do but hold up the finger (as they say) they are hush.

But the King being dead, the subjects are perplext, the Drones lay their young ones in the Bees cells, and all things are out of order. *Aristotle* makes mention of more Kings or master Bees than one in a swarm; which I had rather terme Vice-royes or petty Kings; For as much as *Antigonus* tellieth, the Swarm is in no lesse danger when it hath many Kings, as when it hath none at all. And so much be spoken of the good Kings. The bad are more hairy, and

more

more dark, black and various coloured; you will condemn their skill when you observe their habit.

*Their Kings in face and person differ, one
Bright, as it were with golden spangles drest;
And gorgeous glittering scales, to look upon;*

*The other's a foul, sordid, dusty beast,
Sluggish, large pauncht, unworthy of the Train.
Kill this, but give the other leave to reign.*

And thus far of the Kings and Nobility, now let us proceed to speak of the vulgar sort or Commonalty of the Bees.

Bees are neither wilde nor tame creatures, but a middle kinde of nature between both, but of all in a manner the most serviceable and most profitable. Their sting both keeps them alive and kills them; for if that be once lost, they cannot live, but being armed therewith, they guard the Swarm from all hostile invasion. There are none of them idle, although all do not, have not the skill to make honey: neither do they which can do nothing at all, become like Drones; for they do not, as they do, spoyl the combs, nor steal the honey. But they themselves are nourisht by the flowers, and flying abroad with others feed together with them. Albeit also there are some amongst them have not the industry to make and store up honey, yet every one hath his work, and his art wherein he doth imploy himself. Some bear water to the Kings, and to such of the Bees that are spent with old age, and are decrepit.

The more ancient and graver sort of Bees are chosen to be of the Kings Life-guard, or Esquires of the Kings Body; if they be any way in health, as being of known trust, and well seen in the right ordering and managing of State-affairs. Others of them administer Physick, and undertake to cure such as are sick; and of the Annise-flower, Saffron, and Violet, collect together, compound, and give them to drink, a most medicinable and cordial Honey. If any of them chance to die by reason of Age or sicknesse, forthwith the Bearers meet together, which carry forth the Corps on their shoulders as on a Beer, out of doors; lest they should any way pollute or defile their clean and neat Hives with any uncleannesse, filth or putrefaction.

Neither are the Bees without their commanders, Captains, Lieutenants, Trained-bands, Cornets, Trumpeters, Fifes, Scoutmasters, Watchmen, and *Souldiers*, an Army which do (as if it were a little City) guard and defend their Honey: and do in condign manner punish and torment the Dors that fly thither, and Worms that undermine them.

Lest they should be taken for Drones, as they fly they make a buzzing or humming noise, which according as they begin to fly or cease, is heard or not heard; which sound whether it proceed from their mouth, or from the motion of their wings, *Aristotle* and *Hesychius* do much contend about. Neither was I ever so quick sighted, as to determine of a matter so exceeding intricate and obscure. But the Fifes, and Cornets, seem to make that sound or noise which *Hesychius* calls *Συρ*, the English call it singing; and that they make their signal or watch-word when they are to watch, when to sleep, when to go to work.

So great is their care of preserving their King, that they suffer him not to go abroad alone, but gathering close together on both sides, their company being divided, they hem him in and guard him as he goes along. But if perchance in their journey the King shall wander out of the way, or shall be gone out of sight, being driven by violence of stormy weather, then all make search after him, and do follow him by the scent as it were, till they know certainly what is become of him. And if he be tyred with flying, or tediousnesse of weather, the company bearing him up with strength of their wings as it were in a Chariot convey him home. If he die, all of them go their waies; or if they chance to stay some time after, they make only combs, but no Honey; and within a while after, being altogether idle, full of diseases, starved, wallowing at last in their own filth, they miserably end their lives.

Without a King they cannot be, against whom they make not the least resistance, much lesse do they put him to death, unless as tyrants are wont he make his lust the rule of his Government, or being negligent of the Common-wealth, takes no care of it: yea if he use often to remove from place to place (which he cannot do without great detriment to his subjects) they do not forthwith kill him, only crop his wings; and if he amend his manners, and demean himself as he ought to do, afterwards they love and respect him as well as ever they did before.

If he shall fly away and leave the Swarm, they send for him back again, and if he fly out of the Kingdome, they follow him; and finding him out by his scent as it were by a track (for above all the rest, the King or Master Bee hath a very curious smell) they bring him back unto his royal Palace again. Not a Bee whatsoever dares go out of doors to feed any where, unless the King or Master Bee go out first and challenge his priviledge of precedency. For I am scarce of *Aristotles* minde, that the King never goes abroad except it be with the whole Swarm, which is a very rare thing. But when the Swarm by reason of the tyranny of their Prince are forc'd to remove to some other place, changing their soyl and habitation, as unwilling so to do, then they make an unwonted noise, as it might be of a trumpet some daies before; and two or three daies before, a few of them hover up and down about the Hive. But when all things are ready for flight, away they fly all together, and if the Tyrant whom they left behinde pursue and follow them, they kill him.

But a good King they never desert, and if he die by any infection, sickness, treachery, or old age, the Nobles, together with the common people lament and bewail him; neither do they afterwards go abroad at all, or fetch in any provision, but fill all their houses with a sorrowful murmur, and thronging about the Corps, make most tragical lamentation. Afterwards privately conveying him from the common multitude, they carry him out of the Hive, and make a most doleful cry all about the place. Nor doth a day put a period to, or abate their sorrow, but they continue it so long, till by reason of grief and hunger they all die. Take the King or Master-Bee, and you take all the Swarm, if you misse of him, all the rest convey themselves away and go to others. They cannot endure more Kings then one, the house of the usurpers they throw down and destroy their family. But if it be so that there be two Kings or Master-Bees in one Swarm, (as sometimes it falls out) one part adheres to one King, and the other to the other; whence it comes to passe that in one Hive divers forms of combs are found: where they so behave themselves, that the one doth not entrench upon the others bounds, or invade his Territories.

And as for their Oeconomick or household vertues, they use Parsimony as the chief stay of their family, and having in the summer season gathered a sufficient stock, or store of honey, they do not profusely lavish it, but sustain themselves with it in the winter, and that very sparingly; and so feeding themselves with a sparing diet, and that of the best and purest food, they gain that as a reward of their sobriety, thereby to lengthen their lives, and prolong their daies. Neither are they so gripple or fardily parsimonious, but that when they finde that they have gathered more honey then will serve the number of their family, they do freely impart and communicate some portion thereof to the Dors or Drones.

These also are arguments of their cleanlinesse, that they never lay the excrements of their bodies (unlesse sickness, extremity of weather, or meer necessity compell them) in their Hives; as also that as soon as any of them dye they presently carry them forth, and quit the Hive of them; no flesh or putrid matter, no withering herb, no fading or stinking weed do they touch or come near. They never kill their enemy in the Hives, they drink nothing but the purest running water they can get, they will by no means remain or dwell in an unclean, sluttish, nasty house or room. The ordure of those that labour, and of those that are sick within, they lay upon a heap together without doors, and as soon as they have any leisure, the bearers carry it away.

Neither are they altogether impatient of musical sounds, as other ruder sorts of creatures are, but are very much taken and delighted therewith; provided it be without variety, simple and unaffected. And although they cannot dance by measure or according to the just number of paces, as the Elephant is said to do; yet according as he that rinks on the brazen kettle, pleareth, so they slack or quicken their flying; if he beat fast and shrill, then they mend their motion, if dully and slowly, then they abate it. Neither hath nature only made them the most ingenious of all other creatures; but very tame, and tractable by discipline and education to the keeper of them; for they are all at both his beck and his call, and whatsoever he pleaseth to do, none of them gainsay or forbid. If he beat them, they complain not, and if he rob them and spoyle their combs, they make not the least murmuring, or shew the least discontent. Who would not say this were an argument of a most noble and generous disposition, so to suffer the rigid commands of their keeper; and yet by no means to obey or subject themselves unto the discipline of any stranger whatsoever?

It is wonderful what some do observe as touching the temperance and chastity of them; for whereas all other beasts, the Elephant only excepted, do couple in open view, and the Wasps not much differing in kinde from them, do the like; the Bee is never seen to generate openly, but either doth it within doors with modesty, or without when none shall be by to observe it.

Neither, as the report goes of them, are they lesse valourous then they are chaste or temperate.

*Whilest they expose their bodies in the war,
And nobly dye, receiving many a skar.*

Their war is either intestine or civil, or foreign and with strangers. Of their Civil wars there are divers causes, as the multitude of the nobility treacherous to King and State, dearth of victuals, narrowness of place, when they are not able to live by one another; as also corruption of manners, and sluggishness. Now if they superabound in Nobility (as sometimes it falls out) they put to death so many of them as seem to be superfluous; lest their number still increasing they should force and over-power the King himself, or entice the common people into sedition. But they destroy them then chiefly when they have but a small issue, and have not where else to bestow them, those together with their combs (if at least they have gotten any) they throw down, and pluck to pieces. The Dors also and Drones they kill, as often as they want room for their works (for they take up the innermost part of the Hive) and take away from them both their honey and their victuals. As also, when their honey fails, and there is a dearth, then they go to pell mell amongst themselves, and fight as it were for life and blood: the short Bees they fall upon the long, the smaller sort set upon the Drones (as idle and unprofitable) with all their

their skill and force they can use. In which conflict if it so come to passe that the short Bees have the better, they will prove an excellent Swarm; but if fortune give the longer the day, they will live ever after idly, and make no hony worth any thing. But that side which overcomes is so mightily bent upon rapine and revenge, that it puts all to the sword, yeelding no quarter or truce at all.

As concerning their war with forein Enemies, there is no creature under heaven so bold and adventurous as they are, inasmuch, that whatsoever, whether man, or beast, or bird, or wasp shall molest them, vex and seek to destroy them, they sharply set themselves against, and according as they are able wound them with their stings. Unclean persons, or any that use sweet oyls or perfumes about them, or those that wear curled or ruffled locks, or red clothes (as resembling the colour of blood) they cannot in any wise endure; as also all base and vile companions. Whereas on the contrary their masters, keepers, governors, and those that make much of them they do most dearly love and affect, and sitting upon their hands in stead of stinging them, they seem rather to tickle, and as it were by way of sport to lick them without any the least harm at all. Yea they may have free leave when they are uncovered in the heat of summer, to gather their Swarms with their bare hands, to handle them, to dispose of them at pleasure, to toss them to and fro, to sit or stand before the Hives mouth, and therehence to drive away the Dors, Drones, Wasps and Hornets with a wand. But if any of them have lost his sting in skirmish, as a souldier having his amies taken from him, he is quite disheartned, and living not long after dies with grief.

When they go forth to battel, and are ready to give the onset, they tarry while the signal is given, and then they surround their King (if he be one they love) and in one battel determine the quarrel. But in the fight, what wonderful valour, strength and courage those little beasts do shew; both I my self have seen and know, but they far better who report that whole fields of armed men, have been conquered by the stinging of them, and Lions, and Bears and Horses slain with them. But yet (as fierce and warlike as the are) by daily converse with them they become tame, and unlesse they be provoked they live very quietly, so that any man may stand before their Hives, if not on purpose to disturb them, and they never offer to hurt him.

But if we should go about to set forth at large their ingenious disposition, cunning workmanship, industry and memory, we should not with *Virgil* the Poet yeeld them only to be endued with a small portion of divine inspiration, but even wholly to be possesed with a rational soul, and (to erre with *Pythagoras*) to have the understanding of the most ingenious man infused into them by a *μετεμψυχωσις*.

For as soon as they are lodged in a clean and sweet Hive, they gather from those plants that distil moisture and yeeld gum, (as from the Willow, Elm, and Reed) and even from stones themselves, a kinde of Glue very thick and clammy, and with that (which the Latines call *Commofis*, the Greeks *μύλος*), they lay the first foundation of their work, and dawb it all over as with the first plaister or rough-cast, the which afterwards they cover over again with a kinde of wax mixt with rosin and gum, last of all with Bee-glew. When this tripple wall is artificially finished, they do not only deceive the most curious and intent observer of their works, but without any man taking notice, they do better and better arm and fence themselves against wind and weather, vermine, and all their enemies whatsoever. When this is done they frame their Honey combs with that skilful Architecture, as that they may seem to put down *Archimedes* himself in his own Art. For first of all they build the cells of the King and Nobility in the upper or more eminent part of the comb, large, fair and stately, wrought with the most pure wax of all; which also the better to secure and defend the Kings person, they compasse round about as it were with a certain fence or wall. And as their Bees are of a threefold sort or condition, so they make a threefold division of their cells. Those that are aged and stricken in years (being to be as counsellors of State, and Elquires of the Body) have their lodgings near the Kings Court; next of all to them, those of the first year, or young fry, those of riper age, and lusty in body they place utmost of all, as those that should be able to fight for their King, and the royal Issue. Notwithstanding *Aristotle* writes that they first provide cells for themselves and their issue, afterwards for their Kings, and last of all for the Drones. And as in the making of their combs, they fashion them according to the largeness, and figure of the place; and those either round, or long, or square, &c. according as they please, and sometimes eight foot in length; so on the contrary their cells are tyed to a strict Geometrical form exactly, to wit, Sexangular, or with six corners, only just fit and no more for the bulk of the inhabitant.

But those cells where they make their Honey, and those which are for nurseries for their young ones, are all double from one side of the Honey comb to the other, separated one from the other with a thin partition or mound.

Those Ligatures whereby the Combs are fastened to the side of the Hive, are more straight and are empty of honey, being also much more firm and strong, that they may the better bear the rest of the weight which depends upon them. Those Combs likewise which they cover or plaister most with wax, in those they use to store a greater quantity of Honey, as in a more safe and secure repository.

Now the whole Honey Comb contains four ranks or divisions of cells, the first the Bees take up, the next the Drones, the third the Gentles, and the fourth and last is set apart for a storehouse for Honey.

Their

There are that affirm that the Drones do make Combs in the same Hive with the Bees, but cannot make any Honey at all; whether it be by reason of unwieldiness, or corpulency of their bodies, or their natural inbred sloth, is uncertain. But if their Combs begin by reason of the weight of the Honey to shog, or to be ready to fall, they raise them up and under-prop them with arched Pillars, that they may go under them, for to every Comb there must of necessity be a ready passage) and whereby they may execute their several offices which are appointed them. In some places as in *Pontus* and the City *Anisum*, they make white Honey in trees without any Hives at all. But as for the others in making their Combs so beyond all humane Art, who would not acknowledge for truth, that of the Poet,

*Esse Apibus partem divinae mentis & haustus
Aetherei.*

That the Bee hath in it a particle of divine understanding, and heavenly wisdom? Who I say will deny them to have fantasie, memory, and some kinde of reason? But I will not argue the truth of this, neither will I affirm with *Pythagoras*, that the souls of other wise and ingenious creatures, or of men, do passe from them into the Bees. But yet notwithstanding he that shall warily weigh and observe how they give out to every one his several task, some to make Combs, others to gather Honey, dresse up their rooms, cleanse their laystals, to prop up and repair their ruin'd fences, to cover their boxes, to draw out the spirit of the Honey, to concoct it, to bring it to their cells, to serve those that are at work with water, to give food at certain set hours to those that are bed-ridden, feeble, and aged, with so great care to defend their King or Master-Bee, to drive away Spiders and all other their invaders or annoyers; to rid their Hives of their dead, (lest their work should be marred with stench or putrefaction) to be able every one to return to his particular cell: in a word, to seek their living as near home as they may; when they have sucked dry the neighbouring herbs or flowers, then to send out spies to see for pasture farther off, upon any night design or expedition, to lye under the leaves of the trees lest their wings being wet with the dew, their speed home the next day should be hindred; in boisterous weather, to poise or ballance their light bodies with a little stone taken up into their mouthes, and when the wind blowes hard, to recover the windy side of the hedge to shelter themselves, and the like; surely he will confesse of his own accord that their Common-wealth is wonderful well ordered, and that there is very great discretion and understanding in them.

I had almost let passe that natural sympathy, or affection, that great constance seldom seen in Parents of this Age, wherewith they care for their young ones, in the Hive where they have laid them they sit upon them as birds do, and never go abroad unless enforced with extreme hunger; and when they do, they presently return in again, as if they were afraid lest the Spider if they tarried long (which many times happen) should cover the mouth of the cell with his web, or their little ones being benumm'd with cold should be in danger to be starved. But yet neither are their children delicate, or nicely brought up, for at three daies end (as soon as they have any wings) they set them to work, and have a strict care that they loyter not, or take a haunt of Idleness.

So much foreknowledge likewise have they, that they can preface rains or cold weather to come. And then (by instinct of nature) they never go far abroad, but hover about their stocks or Hives, and sit upon them as upon flowers. When they go forth to pasture (which is not at set times, but only when it is fair weather) then they labour and toyle so hard, and so lade themselves with Honey, that oftentimes through weariness they fail in their journey, being not able to reach home; and whereas some of them by reason of roughness and hairiness become unapt for labour, then they rub themselves against rugged stones or the like, till they be smooth again, and so they buckle to their work afresh as hard as they can drive.

The youth or middle aged Bees are employed abroad and bring home those things which the King or Master-Bee gives them in charge, the elder sort take care of the family at home; and do order and dispose of the Honey which the middle aged Bees gather and make abroad. In the morning they are all still and silent till such time as the Master-Bee gives three hums and raiseth them up, and then every one makes haste out to his several employment. In the evening when they return home, they at the first make a great noyse and tumult, and within a while afterward by little and little cease, till at length the Captain of the watch flies about and makes a buzzing, as it were commanding them to their rest; after which signal given, they are all so hush and still, that if you lay your ear to the Hives mouth you cannot perceive the least noise they make, so subject are they to their rulers and governors, and at their beck and nod are presently quacht.

CHAP. III.

Of the Creation, Generation, and Propagation of Bees.

FOrasmuch as Philosophers have given out that Bees (for the first sin of mankind) are begotten of putrefaction; there are not wanting those that deny they were created in the first week of the world: I leave the question wholly to be determined by others; although some Divines, especially *Dubravins* and *Danaus* do abundantly affirm that they were created with the perfect Bodies. Creation.

Of the first Generation of Bees *Aristotle* hath a long discourse. The Philosophers following him have rightly determined in my opinion, that their Generation doth proceed from the corruption of some other body: as of a Bull, Oxe, Cow, Calf, very excellent and profitable beasts: the which not only worthy men and without all exception do report; but even rustical, and common experience doth confirm. They say that out of the brains of these beasts are bred the Kings and Nobility, and of their flesh the common sort of ordinary Bees. There are likewise Kings that are bred out of the marrow of the chine-bone, but then those that come of the brains do far excell the other in feature or comeliness, in largeness, in prudence, and in strength of body. Now the first transformation of this flesh into these Creatures as it were by a kinde of conception you shall then perceive to be when as these little imperfect creatures appear in great numbers about the Oxe, Lion, &c. in a small white hew, and as yet without motion; but increasing by degrees, and their wings by little and little growing out, they come to their proper colour, flying to and hovering about their King or Master-Bee; but yet with short wings and trembling as unaccustomed to flight, and by reason of the weaknesse of their limbs. Now what countreys do most conduce to the generation of Bees, and what are most hurtful to them, we shall afterwards handle when we come to treat of Honey. But in general there are very few places in the world to be found, (unlesse it be in a very barren countrey, and unwholsome air, and where no food fit for them can be had) in which Bees cannot breed and very well live. But where there is perpetual frost and snow (as in *Scanzia*) or where the countrey is barren of herbs and trees, (as in *Thule*) there they are neither able to breed nor live. As also for the poisonous condition of the airs and nature of the soil some sort of Bees do not endure to live there, as in the Isle of *Myconos* it is reported, that if Bees be carried thither (if *Ælian* be to be believed) they presently dye. But whereas *Munster* saith of *Ireland*, and *Solinus* of *Great Britain*, that those Countreys are altogether without, and that they cannot live there, if they had not spoke rather by hearsay, then of their own knowledge, they would have written that every village or town almost is full of them. And thus much may suffice to have spoken of the Generation of Bees; come we now to their Propagation; concerning which Authors have divers opinions. Generation.

Some say they never couple, or bring forth, because no man ever yet saw or could tell whether they did so or no. Others say, that when they have shed their seed upon the flowers or leaves of trees, they carry it to their Hives, by diligent and soft sitting upon it, it comes to perfection. *Pliny* will have it gathered from the Flower of the Honey-suckle, or Honey-wort. *Aristotle* from the flower Calander, so called; *Athenens* of the Reed-flower, some of the flower or berry of the Olive; taking that for an argument, that in those years wherein these flowers are most plenty, there are great store of swarms of Bees; but when there is scarcity, then few or none are to be seen: when as yet they do not consider or observe, that even in very cold countreys where none of these flowers grow, nor are so much as seen, there are plenty of Bees. I am of opinion that they are propagated by copulation, and am confident the male Bee is the greater, the female the lesse, who whether as Cocks do tread their Hens, so they accordingly engender, let experience reach: yet certain it is, that the lesser Bees only, to wit, the females do sit upon the eggs, and the shells being broken (after the manner of Hens) they do by an admirable and natural midwifery put forth their young. Propagation.

Aristotle on the contrary affirms, that the Kings or Master-Bees themselves do first bring forth, and afterwards all the rest, as those also do the Drones, but the Drones beget nothing, and so their generation ceaseth. And this it may be, not without some reason, in regard that the Kings or Master-Bees alwaies remain within, as if they were ordained by nature only for procreation, neither ever appear abroad but when together with the whole Swarm they go to some other place to dwell. For the same reason also they are so extremely beloved of all the Bees, and live exempted from all necessary businesse and labour. These do also excell the other Bees both in bulk of body and strength, as if their bodies were by nature made only for breeders, But the greater Drones keep a mean between both, and hold such a loving correspondence with the labouring Bee, as that they may nourish both the Drones their Nephews, and the Kings their Parents. But as for that which the Philosopher addes, that Bees do not engender by way of copulation, because their young is so small; the same argument may be held of the Flies, of which some are bigger than Bees, who lay lesse worms, the which growing by little and little become like Bees without wings, and afterwards become Flies.

Others

Others there are who think that Bees do spring from the Honey, or with the Honey, or at least of the most pure and excellent part of it: and that without all putrefaction. But yet something whatsoever it be, serving to engender, and out of which Bees are engendred, without doubt is layed in the cells.

Scaliger thinks they lay Eggs, although the Bee-masters, with one consent, say that they lay little Worms, not Eggs.

Taxites is of opinion, that they do couple, and determines the Bees to be the males, the Kings the females; and that the Kings at a certain time do put forth little Worms all about the Hives, as the Flyes do, and the Drones sit upon them as the Serpent useth to do, and by sitting upon them for such a time doth cherish them. Then afterwards these little Worms called in Greek *gasteres*, are fed with the purest, as it were with a mixture of wine and honey together, till at length they grow to be Nymphs, i. e. little Bees, but without wings; and then being wrapped up like to *Aurelia*, they lye still in the cells, neither taking any food or making any excrement. Till at length by such a day the shell wherein they lay being broken out come the Bees; and addresse themselves to their several employments, their wings being not yet fully grown. All this time the Bees are much delighted with urine, especially of men, and therefore do frequent those places which are wet with it; but especially after rain.

Conservation.

To the Conservation or keeping of Bees, many things are required, to wit, orderly diet, drink, sleep, watching, air, exercitation, habitation, convenience of place, as also moderation of minde, and physick fit to cure their Diseases; of which we shall speak in particular. As touching their provision, they seek for nothing, but they themselves being mindeful of the approaching winter, they take pains for in summer, and what they get store up accordingly. For they gather and cook or dresse their diet themselves, the prime or chief whereof is Honey, which being over nearly drawn from them, they become gaunt, and lank, and transparent, that you may see through their bodies, and unlesse there be other means made to sustain their hunger, they all dye for want of food. They have also other meat to preserve themselves withall, as Wan-wort, Honey-wort, Bees-meat called *Sandaracha*; but this is the worst, and tastes sweet like a fig: when these fail, the Bee-masters lay before their doors, figs, sugar, dried raisins, the drones bruised, the heads of gentles, wool wet in sod or sweet wine, and also honey-water, lest they should faint and dye for hunger.

Pliny would have raw flesh, if it be sweet and fresh, to be laid for them to feed upon. Generally all sweet things and of pleasant smell they covet, though at a great distance, not so much for the smells sake, but as being their natural food, as Flies feed upon wine. No odoriferous and fragrant flowers do they refuse; from whence they are in the Latine called *Florilega*, in the Greek, *ἀνθοφάγοι*, *ἀνθόφάγες*, from the delight they take in them, and their greedinesse in gathering them.

The Plants most acceptable to Bees, are the white and red Thyme, Melicor, the Myrtle, the Willow, the Broom, Lavander, Beans, wilde Thyme, Violets, Kexes, Rosemary, sweet Fleabane, Almonds, Heath, the Tamarisk, the Cytisus, Casia, Daffodil, Asphodil, but chiefly Balm: concerning which *Macer* sang these macilent verses:

*That herb the Greeks call Balm, the Bees approve,
And above other plants do highly love;
No flower or plant doth please them half so much.*

Also the Jvy, black Hellebore, Origanum, Savoury, wilde Violets, sweet Marjoram, the Hyacinth, the Palm-tree, the wilde Olive-tree, the Flower-de-luce, Saffron, Rose, Lilly, the Juniper-tree, Pear-tree, Peach-tree, Turpentine, Mastick, Cedar, Tiel-tree, the smaller Oak, goldylocks, wilde Saffron, Cumila, flowers of Mustard, French Spondilium, Crowfoot, purging Thorn, all trees that bear Mast, Apple-trees which have no bitterness in their blossoms: moreover they feed greedily on the flowers of dead Nettles both white and yellow, whereupon this herb by the Helvetians is called (*Bienfange*) as if you would say, sucked by Bees.

Drink.

As for their drink, if there be but a river or running water hard by in which there are stones, or pieces of wood cast (upon which they may light conveniently, and bath or wash themselves) they go no farther to drink, if there be none, they fetch their draught other where and quench their thirst, and when they have done, they carry of the same liquor to their King or Master-Bee, and to those that are at work within (as hath been said before).

Whatsoever they eat or drink, must be undefiled, pure, sweet, and without any stench or putrefaction whatsoever.

Yea, so cleanly do they live, that if a menstruous woman come near them; they are reported to forsake their food and feed no longer, as also those that use sweet oyls or perfumes about their bodies, and those that are given to overmuch lechery they hate above measure, and can by no means endure: also all things that smell of oyl or smoke, and dung and dirt, they are very shie of coming near, nor will they touch any thing that savours of any such matter. All hurtful herbs, all that have any bitter, purgative, unpleasant or poysonous quality in them; they forbear Wormwood, Rhubarb, Senna, Savin, Tithymals, Hellebore, Wood-laurel, Coccus gni-

dus,

dius, Thapsia, wilde Cucumers, Yew, Rhododendros, Wolfs-bane, they will not once taste of.

When they have laboured hard all the day, and come home weary, a certain signal or token being given, (as is above mentioned) they take their rest. The which oftentimes is many waies disturbed and hindred, and by this means the Swarm being astonished and over wak'd do die: sometimes the Gad-bee or Horse-fly molests them, sometimes the Bear making a noise wakes them, sometimes the approach of the enemy affrighteth them, *viz.* the Lizzard, Spider, or the land Toad; in which regard the Cornet presently sounds an alarm, and calls them all forth to arms in the night. If it happen to thunder or lighten by night, they are all presently in an uproar or tumult as if there should be a mutiny in the Arny, or some fatal battel to be fought. And the reason of it is in regard of the unwontednesse of the light at such a time, as also because they are afraid, and that not without cause, lest their Hives being shaken, the combs should be disordered and displaced, or their little waxen vessels being melted, the Honey should run out. That this is true by experience, no man can better speak then Dr. Penny and my self, who in the moneth of *August* 1586. whilst we sat up and watched by the Countesse of *Somerset* then a widow lying dangerously sick, together with her two noble Daughters *Mary* and *Elizabeth*, on a sudden (after a great clap of Thunder) under the next ceiling between the joynts, we heard a great noise, as it had been an alarm of war, and as we thought the floor did reound with the noise; being altogether ignorant of that (which indeed was the matter) that Bees did harbour between the rafters and the ceiling; where it seems they had remained for 30 years together, and every year to have yeelded two or three Swarms, as we understood afterwards by those which were eye witnesses of the same, and they of the chief Nobility, who affirmed it to be for certain. The next day for want of sleep they flew about making a hoarse noise, trembling, and not knowing what they did; they did touch those things which naturally they could not endure, they did dash themselves poor creatures against the windows, they did not spare to sting their friends and those that looked to them, even to the admiration of all that stood by and observed them. From whence we conclude without all doubt; that Bees are most patient of labour in the day time, but most impatient of being scared in the night, and of being disturbed of their rest.

From whence they seem to have gained the name or Epithet of *Soliferae*, or Sun-followers, for with it they rise, and with it they rest. None of them take so much as a wink of sleep all the day long, and all of them in the night sleep very soundly.

Now their exercise is of two sorts, either they fly abroad for their pleasure, or tarry at home and work for necessity. If that be denied them (the Crocodile, Swallow, Lizzard, Spider, or other strange Bees intercepting them) either by reason of intemperate weather, or long rain they become purtie, unwieldy and nummed in their limbs, grow into diseases, and shortly after die, especially in the summer season, which is the only time they have to exercise themselves abroad in the open air. When they have refreshed themselves with flying about, then they bath and wash themselves clean, and afterwards they lightly rub themselves smooth with leaves. Moreover also sometimes they carry little stones, sometimes they carry water, and as little things as they are, will break through the wind though it sit against them; and they will in a bravado, yea they will venture their very lives also to fight with the greatest of beasts; Horses, Elephants, Dogs, yea and Men too (*Archilochus* was of this opinion) if they offend them and quarrel with them they wound, and with their stings often and fiercely thrust into their bodies, they kill them. Sometimes they appoint duels one with another, not in earnest, but in jest, for exercise and recreation, not with any intent to hurt one another. They will play together oftentimes, and tickle one another, and like Doves bill and kisse each other, after which without doubt they couple together also, but at what time after, in what place, after what manner, let that all-eyed *Argustell*, who alone sits by the Elephants and knowes when they engender, which no man ever yet saw but God.

Now as they perform the aforesaid exercises of flying, of fencing, of carrying of stones, &c. for their recreation, so necessity the mistresse of Arts hath inured them to domestick labour, to which they diligently, not lazily apply themselves, no day (if the weather let not) is spent idly; but how long they work, that wholly depends upon the constitution of the Climate, or the air. For in cold Countreys from the setting of the Pleiades or seven-stars, to the Vernal or spring Equinoctial (or thereabout) they keep close within their Hives; but like Dormice without food, sleeping, and so they continue rouled up together like a ball, in a heap; nor do they stir a jot from the place where they are: for else how should such little creatures as they, be able to endure frost and snow, and the bleak gusts of the north wind? But if the temper of the year be more warm, and so continue for a great while together, 'tis longer ere they leave their work, and that *Aethiopia* proves by manifest experience, where through continual heat, and almost no cold that is there, the Bees work almost all the year long.

But in *Europe* they seldom go abroad before the beans begin to bloom or blossom, (as *Pliny* witnesseth) which they taste of the first of all flowers or herbs whatsoever. *Servius* dreams that when winter drawes on, they stop their mouths with juice and flowers, and with these keeping in their Hive to sustain themselves. But in summer they never loyter at all, but exercise themselves in constant employment; and when they have gotten such a numerous off-spring that one house

Exercise of
Bees.

house will not hold them, in the moneth of *May* they make a solemn expedition, and divide themselves into several Swarms hanging upon the boughs of trees like bunches of Grapes. The elder Bees afterwards making two or three rounds or circles in the air go to their food and return to their Hives: the young Imarm or colony thus sent forth and left, unless they be entertained with fresh Hives, wander up and down the woods, untill the publick overseers and hospitary Bees have found a fit place for the Swarm to settle in.

Now having spoken of their exercise, in the next place let us enter upon the description of the places or houses where they are to reside, which the Greeks call *κηφελαι, σμβλας, &c.* The Latines, *Alvus, Alveus, Alvearium, &c.*

Now about these for the conservation of the Bees, three things are requisite or needfull. The fashion or form, preparation, position, and the fitnessse of the place where they are to be set. The best receptacles for them, are made with barks, but especially with cork, which in the heat of Summer doth not scorch them, and in the Winter is very good to keep out the cold. The Ancients were wont to make them of an hollow tree, or of boards artificially joyned together, also they were used to be very handsomely made of Reeds, or of the Holm-tree wreathed or twisted together. Those of earth are counted the worst of all, as also those that are made of Brick, or Clay, because in Summer they are over hot, and in Winter as extreme cold. And yet (as I hear) in *Hungary* they have certain thick pots or vessels to hang up from the ground, and these they hang up in Trees, for the Bees to make their Combs in; which when they have done, they at a certain time take away again. Some make them of Mud or dirt, but these likewise have their inconveniences and discommodities.

The English use to enclose them in Hives artificially wrought and built of straw; that in Winter they should not be starved, nor in the Summer sweltered with heat. The Ancients were wont to make them of a kinde of transparent Stone, of Horn, and Glasie, to the intent that they might look in upon them and see how they wrought. But the Bees lay a first, second, and third covering over their work within (as I said before) whence they perceived they lost their cost and labour in that contrivance, as being never the near by that way to gain their purpose.

Let the form of the Hives be after the manner of an Egge, the yolk and the white being clean taken out, as when we eat it, a little of the end being pared off.

Moreover the Hives ought to consist of twelve rounds or wreaths of straw woven together after this manner.

The 3 first lowermost must be of one size or bignesse, a foot and a half in breadth: The 4 next above them are to be a little bigger and more capacious, that the combs may be the better fastened, and may hang more steady: The other 5 circles or rounds are to be narrowed and made steep up to the top by degrees, in the likenesse of a spire or pyramid; but the whole Hive ought to be of that content and bignesse that it may contain in it in all about 20 1/2 weight. Let the mouthes or passages into the Hives (by which the Bees are to go out and in) be about three or four; and no bigger than that the Bees when laden with Honey may well go in; for by this means, the Lizzard, or Beetle, venomous Spider, Moths, using to rob their Hives, are barred of their entrance; and the Hive will not be so obnoxious to frost, and the extremities of the winter season. Above these they use to make 4 doors, also windowes to shut down with bolts, 2 before, and 2 behinde, that they may the better take out the Combs, with lesse disturbance to the Bees in their making Honey.

The preparation or seasoning of the Hive after it is made, is reported to be divers. The English do take in new Swarms into new Hives, without perfuming or anointing them at all. The Ancients after they had made them very clean, did use to rub them all over within with Balm, Thyme, Fennel; and did sprinkle them with some sweet thing made of honey sugred, or with sweet wine or metheglin, that so they might the more willingly come into them, and the longer remain in them. *Palladius* was wont to anoint the insides of the Hive with the dung of the first calf that the Cow hath; and this he accounted for a chief secret to retain Bees in the Hive. Moreover it is requisite that about the midst of the Hive there should three or four sticks be laid a crosse to hold up the Combs; and then they are not subject with any light shaking of them to fall down; and are more easily if need be, taken away. Take heed also there be no chinks or chifts in them, whereby they may be annoyed with heat, cold, dust, vermine, the Cankerworm.

Placing of the Bees.

As for the Placing or setting of Bees, it is convenient that the Hives should be mounted on forms, or stools, that they be not dirty or mouldy with standing on the ground, and that they may live more secure from noxious and hurtful beasts. Let their standings be made of stones, chaulk, elm, or oak; three foot high, covered over with flat tiles, or pargeting, or whitelime, and that very smooth and sleek, that those Honey and Bee-devouring creatures may not be able to climb up. Let them also be set shelving or casting forwards, lest the rain-water settling upon them should soak and wooze into their Hives: for which cause (as *Columella* witnesseth) they were wont to be placed in hollowed walls or porches of Cities. Let there be two handfuls distance between every Hive, that one shogging or shaking, the next may stand unmoved, as it is usual when they are set close together.

Now as for their Ranks or rows how many they should be; they are not to be above three at

at the most; of which, let the younger Bees have the first, the second sort or middle aged, the middlemost, and the elder Bees, the highest or uppermost place. But yet both the Hives and the forms whereon they are set must be conveniently placed for the benefit and advantage of the Swarm; in hot Countreys, towards the North; in cold, towards the South; yea in *Ethiopia* by reason of the excessive heat, and scorching of the Sun, they keep them in their houses, a sufficient gap being made in the wall for them to go in and out at; lest their combs should be melted. Let the place where they are, be open, not over hot in Summer, nor very cold in Winter, quiet from wind, not woody, not inclosed with an over high wall or pale, nor against a place where any echo is given, planted with natural and ordinary food, remote from the company of men or cattel which may crop or shake off the dew from the flowers; near no jakes, privy-houses, dung-hills, common-shores, standing ponds, bogs, gallows or place of execution, Church-yards, or where bodies use to be buried; and so ordered that it may be in the bottome of a hill or in a valley, to the intent the Bees being laden may with greater ease fly down to their Hives. To conclude, if there be a wind above other that doth infect any countrey, in that, let the Hives be placed where they may suffer the least harm, and in no wise let them have any doors open against it. But this diet is necessary for the tame Bees for to maintain their lives; now as for the wilde and wood Bees, they live after another manner, they chuse their places of residence themselves, and furnish them accordingly. In the Countrey of the *Abissines* under *Prester John*, the Bees live in the Tradesmens houses, and flying up and down amongst them without fear, hang up their Combs, their hives being made fast to the beams or joyces of the same, without any harm at all to those that work in the place. Moreover in many places in *England* they have been known to have taken up their harbour of their own accord, and that for a long time together between the rafters and the ceiling of houses, and in the hollow trunks of trees, and from thence the old Bees have sent forth three or four swarms of young ones in one year. And (what is worthy to be noted) they live here longer and more happily, then in their artificial woven Hives, with so great diligence perfumed, so curiously set, ordered, digested and placed. But yet I commend their industry who have freed the Bees from this trouble, and have no lesse ingeniously built them houses to keep them from wind and weather. But they above all the rest deserve commendation who have found out how to cure the diseases of their bodies and mindes, inward and outward, and have had the skill how to apply them accordingly. The passions or distempers of their mindes with which they are most troubled, are Anger, Grief, and Fear. For they very hardly digest injuries, and they betray a great deal of choler and spleen to be in them, by their often fighting, even amongst themselves. For if they overabound with issue, they are all in an uproar about their cells and lodgings, nor can the quarrel be composed, till many are slain on either party; or being divided into faction, they do of their own accord seek other places of habitation. More then this, even the souldiers of the same Colony, when they (for some private grudge or jealousy fall into a rage) they make war, and fall foul one upon the other: the which the wary Bee-master espying, and casting in dust or cold water by squirts in at the vent holes, where they go in and out, or making a terrible and hoarse noise with the palms of his hands, doth before it be too late pacifie. For if he should let them fight on, they would be so mad and cruel one against the other, that they would never be quiet till they were all killed.

Sadnesse and Melancholy also doth very much distemper and disturb them, arising sometimes from the death of the King or Master Bee, sometimes of their young ones, sometimes of their keeper; neither will a day cease their conceived sorrow, but they take it to heart, that their bodies pine away, and it consumes them to skin and bone. Neither will the tinging or tinkling of the brasle pan, or any harmony, whatsoever delight them (which yet when they are mad, and dore so that they know not what they do, is wont to cure them) there is no plague or disease that can be named, that is more deadly to them than this.

They most stand in fear of the Spider, Lizzard, Crocodile, Toad, Glow-worm, Gad-bee, Wasp, Hornet, the multitude of Dors or Drones, a little bird called a Houp, the Tirmouse, Swallow, the Woodpecker or Ear-bee, the Owle, and other the like destroyers and spoilers of the Hives. They are likewise very fearful of an Echo, thunder and lightning, and the like sudden crackling noise; as on the contrary with a soft still whistling, or murmuring noise, and tinkling of brasle they are exceedingly taken and delighted. When fear takes hold on them, poor creatures, they wander up and down they know not whither, and when they go out or in to their Hives, they seem to be giddy, as if they had a Vertigo in their brains whirling and turning round; as for their Honey, or their young ones, or for those that are sick, they scarce regard them; and never leave trembling and quaking in their wings and shanks. The Bee-master therefore (when their provision fails) ought to destroy the Drones, and (by putting raw flesh into a pot) to take the Hornets, and then burn them. To kill the Frogs, Butterflies, Wood-worms, and Canker-worms, to wipe away their webs, to entrap the Gnats and Flies, to stab through the Lizzard, Crocodile, black fly or Beetle, and by putting in a Candle (to which they will come of their own accord) to burn the Glow-worms or Moths; to chase the Frogs and hunt them from the standing waters and fenny places, to throw down all the nests of Swallows, Modwals, Owls, or Wood-peckers (especially in all the neighbourhood or places hard by them) to destroy the Muskin or Tirmouse; and to defend them against all other beasts that lie in wait for them, and all other strange Swarms. In which fight

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Fear.

the Bees do as it were acknowledge their keeper, who after the victory issuing forth, set upon the vanquish'd troops, but to their defender or champion offer not the least harm.

The Bees by these means thus quitted of their fears, only with the tinkling of the Pan, and sometimes with the Bee-masters voice only, are strengthened and brought to themselves again, and every one cheerfully returns to his several appointed employment as before. Some Bees also are caught wandering up and down, and flying away from their Hives, for they take pleasure in wandering delights and embracements, and never care at all for coming home to their own habitations: this ill habit and haunt, the Bee-masters with clapping of their hands, and with the sound of the brasse (in which Bees are said extremely to delight) do presently remedy; although it is yet uncertain whether they do hear the sound, and are led by the pleasure of it; or whether or no rather being affrighted and terrified with the trembling and reverberation of the air (as when it thunders) they return to their Hives; and I see no reason why *Pliny* and *Niphus* should here make a doubt. Others lest the swarm should fly away and so be gone, do crop off half the wings of the King or Master-Bee. As also others do besmear or dawb the vent hole out of which they come, with the dung of a calf newly calved. Moreover if you strew their passages with the leaves of the Olive-tree boyled, they will not depart: also Wine sod with water is very good, but above all, the juyce of the herb Balm, wherewith (as it were with a kinde of philtre or love-potion) they are most powerfully retained, as the Poet *Macer* sings.

*Smear but their Hives with Balm and they'l abide,
And much the rather if that milk beside,
Be us'd to keep them, that they wander not.*

Pliny saith, if some of the dust over which the serpent hath gone, be cast upon the Bees, they will return to their Hives. Others yet advise to sow Goldilocks near where they are, as if they delighted most in that flower above all others, and would never forsake those places where these flowers abound. And Authors report that the wilde Bee is allured and tamed therewith.

The bodies of Bees likewise are subject to divers diseases, *viz.* repletion, inanition, drowth, moistnesse, cold, and unnatural heat. Repletion, or abounding of humours is caused when the Bee-master neglects to gather the Honey in good time; for then they do so fill and gorge themselves, till being grown over with scab and scurf, and swoln in their throats, they become sickly; there follows upon these sluggishnesse, feavers, longings, loathing of their food, watching or wakefulness; with which the miserable poor outworn Bees, unlesse they have some timely remedy, do die; wherefore of necessity they must have their Honey gathered from them. In doing of which two things are to be observed, *viz.* the time when, and the quantity how much, the which according to the quality and custom of Countreys, are divers. For in *England* they gather the Honey every year, *viz.* either in the latter end of *July* or in the beginning of *August*. In hotter Countreys they observe three times in the year to gather in this Honey harvest, *viz.* at the rising of the *Pleiades*, when their are at they Zenith or Vertical point, and presently after their setting. *Didymus* in his *Geoponicks*, writes that this time of the *Pleiades* is the best. The *Romans* did use to unbowel their Hives, the first time in the moneth of *May*, and then again when Summer was almost done, and thirdly about the Ides of *October*. From whence it was called Spring Honey, Summer Honey, Autumnal Honey, or Honey gathered in Autumn. *Aristotle* adviseth the first taking Honey, to be when the wilde Fig-tree begins to be green; the second he commends to be done about Autumn. Generally it is very necessary that the Honey should be taken when the Hives do overabound with Honey; the which is certainly understood by the shrill or squeaking noise that the Bees make. For if they be empty, they give out a more clear and loud sound, as being more full of air then meat: but most certainly it is known by looking in at those doors placed on both sides of the Hive, being open (saith *Columella*) of which we have made mention before in the building or structure of the Hives.

The manner of taking them is thus; Betimes in the morning while they are half asleep and drowfie, is the time when the work is to be affected, and their Combs taken away; it being not convenient to exasperate them in the heat of the day. *Columella* prescribes for this use two Iron instruments of a foot and an half long and somewhat longer; the one must be a long knife with a broad edge on both sides, but dull, with a crooked head and sharp teeth to rake out the Combs withall, the other plain with two sharp edges, to cut down the Combs. With these the vessel being opened, the businesse will very well be effected. In *England* as also in other Countreys, *viz.* in *Helvetia*, *Germany*, and the Low Countreys; they do not set upon them with these Iron instruments, but with fire, and smoak, and water, with which they chase the elder Bees from Hive to Hive and keep the Swarm entire at their pleasure.

Moreover in taking away the Combs, there ought a mean to be observed, according to the greatnesse of the Swarm and number of Bees. For with overmuch plenty of Honey they grow idle, and both defraud their Masters and themselves; for when the abound with Honey, they feed not on Bee-bread, but glut themselves with the very purest of the Honey: on the other side if there be not enough Honey left them to feed on, languishing for want of sustenance they grow heartlesse, and live carelesly; and becoming so thin that you may see through them, being starved and feeble, they miserably perish.

More-

Diseases of
Bees and the
cures,

Moreover, the old and rotten Combs ought to be taken away (but not those wherein posterity is concerned) and those which are whole, and which contain the young spawn or fry of the Bees, unlesse you see that there is not so much Honey left as may serve for the sustentation of the Parents or elder Bees. Keep such a proportion, that in the abundance of Honey, you take two parts and leave a third; if there be but indifferent store, take the half, if the Combs be in a manner empty, take nothing at all out of them. But this proportion is not to be observed in all places, because in regard of multitude of flowers, store of pasture, and goodnesse of it, together with the condition of the Countrey, you may take away more or lesse as you shall see cause. For in *Æthiopia*, *Syria*, and *Palestine*, they commonly take all the Honey out of Hives: which by reason of the fatnesse of the pasture, and continual dews, are filled again in very few daies.

But if there chance to be famine and scarcity, you must not only drein the Hives, but take away part of the Bees also; and choke the greater part of them, with the smoke of Tow, Reed, Turpentine, or Brimstone, or Galbanum, or else drown them in water; by which means the honey will become sweeter and purer.

Famine is caused especially two manner of waies; either by scarcity of provision, or the badnesse of it by reason of corruption: when there is great want you should supply them with Honey, sprinkle them with a liquor made of wine and honey boyled together, give grapes or figs bruised or pounded together, and sugar-sops. *Pliny* would have Hens flesh given to them, although he saith that Bees will not touch any flesh whatsoever. Now the corruption and un-soundnesse of this meat, doth procure first of all, longings, scowrings, barrennesse, and consumptions; from whence and by the stench of dung and dead corpses, ill savours, plague and putrefaction, with other dysasters do arise. In their longing desire of what they fancy, they grow so nice and peevish, that disliking all things, they are ready to fly away, unlesse with the perfume or vapour of things of a very pleasant and grateful odour, with exquisite playing upon the brass pipe, and exceeding neat handling of them, they be retained. Also they are taken with a lask or loosenesse in their bellies, both in regard of the naughtinesse of the juice it self, as also in regard they feed on those herbs and leaves that are purgative, as Hellebore, Spurge, both kinds of Elder. For being greeedy of food after their fasting all the Winter, as soon as the Spring comes, tasting more greedily, than in way to their health, every herb that they light on, without putting any difference, having gathered unwholsome honey, they are taken with a cacochymia, or ill humour or habit of body, and afterwards very suddenly fall into that lask or loosenesse, afore spoken of.

Against this disease (saith *Pliny*) set them services with honey, or wet with man or oxen piss. Also Pomegranat kernels moistened with wine of wilde Briony; *Palladius* much commends the kernels of Pomegranates or Raisins boyled and pilled, with Manna or sharp wine set before them in wooden gutters; also he bids squirt in Honey boyled in water, with the powder of Galls, dried Roses, or Rosemary, or set it in with little sawcers.

Moreover, care is to be had, that they do not bring home any food gathered in the woods, where for the most part do grow harsh and sowre herbs, with the acrimony thereof the bellies of the Bees are moved, and are scarce stayed but by the experience and accurate endeavour of their keeper. From thence proceeds barrennesse, because by that means for want of seed they do not generate, or at least (by reason of feeblenesse) they are not able to hatch their young, or constantly to sit upon them, or to avoid the snares of the Spiders which are drawn over the mouthes of their cells. This consumption and hestickfeaver increasing yet more and more, *Higinius* bids that flowers be brought, soaked in dew or a sweet liquor made of wine and honey, and so layed unto the holes or vents of the Hive. Also he commends for that purpose Violets and Buglosse, flowers besprinkled with new wine boyled half away, after that their Hives being very well cleansed, and the vermine and dead Bees rid out of them, they are to be perfumed with oxen or calves dung; because that takes away putrefaction and infection, and doth infill a new life or soul (if *Columella* say true) into the almost expiring Bees. They are also full of lice (as *Florentius* relates) the which he cures with the shavings of the Pomegranate and wilde Fig-tree burnt to ashes. The same Authors cure the dulnesse or purblindnesse of their eyes with the powder of wilde Marjoram. They themselves are able to take away their scurf and dandrif, with a gentle rubbing of their bodies against the herb Celandine, and against walls stained with urine; their drinesse they cure with baths, and their throat with drinking mineral waters.

The diseases that come of moisture, are swellings in the neck, tumors in the head, dropsies, which the Ancients used to cure with dry herbs, and shaking off the dew from them betimes in the mornings, and our countrey people do somewhat abate it, by keeping them from common water, for they keep them three daies together in their Hives, by which it comes to passe that not only the superfluity of the bad humour is dried up, but the natural moisture is in some measure regained. *Hesychius* writes of a disease very common to Bees, which he calls *Karev*, but what it is he doth not tell us, neither could I learn from any other Author, what, or what manner of disease it should be.

The diseases proceeding of cold are congelation, nummednesse, stiffness, and other of that sort, for you shall see them sometime so nummed and stiffe with cold, that you would not think they had the least motion, much lesse breath. On the other side, through extremity of heat, they

are driven into madnesse, excesse of thirst, Feavers, Vertigo, and swimming in their heads, yea they grow stark mad, at which time they know no man, no nor their keepers, and will strike their friends with somewhat venomed stings. In such sort therefore ought their Hives to be placed in both seasons of the year, that in the winter they be not too much oppressed with cold; and in the summer, that the shade of the trees do not keep the heat from them. Bees do fail also sometimes for want of issue, as in the plenty of pasture it happens to come to passe, at which time they are so intent upon their work in making of Honey, that the care of copulation and propagation is quite laid aside; and so the reparation of issue being omitted, the whole Swarm being spent with labour, is extinguished. But when they fly away in stomach and anger, by reason of their Hives being not kept sweet, or for some peltilent disease that reigns amongst them; you must follow after them, and with that Art (*Palladius* hath taught) being found again, entertain them in clean Hives, and remove them from the place where they were before into fresh dwellings. Moreover, *Pliny* saith it doth very much conduce to the keeping of Bees, that they be lawfully and honestly come by, that is, that they are either given or bought, for if they be stoln they seldome thrive, and come to good; as it is with Rue or Herb of Grace, if stoln it very hardly growes.

Now if when we shall have removed from Bees all creatures that annoy them, what we shall yet further adde to the conservation of their health, and the cure of their diseases, I do not see. First, therefore remove from them all filthy Lechers, menstruous persons, those that have the running of the reins, baths, smoke, dunghills, laystals, all those that smell of grease or kitchenstufte, or having nothing else to do, or on purpose to offend them, stand before their Hives mouth. The air being infected with the breath of Toads or Serpents, purge with Balm, Gentle, Thyme, or Fennel burned. See that they live neatly and daintily; kill all predatory or devouring vermine; and the signs or symptomes of their diseases being perceived and known, apply the cure of them. Now the signs of Bees, as of other creatures also, being not well, are gathered from three things, that is to say, from their refraining to be in action, from the external garb of their bodies, and from their excrements. For the losse of mirth, lumpish melancholy, vertiginous or whirling gate or motion, their frequent and lazie standing at the door, their fainting in their work, their disdain of flowers and honey, their more then ordinary either sleeping or waking, unwonted hummings, are an argument that the Bees are ill at ease. As also when their bodies are unhandsome, not trim, rough, not sleek or smooth, scurfie or scald, not shining or glistering, lean and transparent, not well liking, or well fed. Moreover, if their combs have an ill favour, or if their dung or ordure turn to water, or be full of worms, and when they carry out every day their dead, not at all regarding their Hives, these are infallible signs of sicknesse, and some epidemical disease that reigns amongst them, some part of which *Virgil* in 4. *Geo.* hath elegantly, though somewhat confusedly touched in these verses following.

If Bees be sick (for all that live must dye)
That may be known by signs most certainly.
Their body is discoloured, and their face
Looks wan, which shewes that death comes on apace.
They carry forth their dead, and do lament:

Hanging by th' door, or in their hives are pent.
Hunger and cold consumes them, you shall find
They buz as doth 'ith woods the Southern winds,
Or doth the sea when that the waves return,
Or fire clos'd up in vaults with noise doth burn.

And thus their distempers being understood and cured, they live to extreme age; which *Aristotle*, *Theophrastus*, *Pliny*, *Virgil*, *Varro*, *Columella*, *Cardan*, and all Authors whatsoever, do conclude not to extend it self to nine years. Although I saw it by experience, and with no lesse delight to be otherwise at *Hannorth* in the Countesse of *Somerset* Bees (before spoken of) (there are yet present witnesses, who are worthy of belief which will attest it) that there they have lived in the same place above the space of thirty years; and almost four times a year, have made out fresh flights or swarms of young ones. Which reason doth induce me to believe, that Bees in their own natural constitution are long lived, and I do with *Albertus* alone make a question, whether they may not live so long till they dye of old age. Well I know they may be taken away by diseases or incursion of their enemies; but if they had alwaies all those necessities for their life and health by them, and those things which should be destructive kept from them, I should easily grant that they would live to a very exceeding great age, if I did not altogether say they were immortal. For they alone, of all other creatures, are fed with Honey that immortal Nectar, dropt down from heaven, and with that divine dew (which is the soul and spirit of all herbs, trees, and plants) gathered together into one body or masse; of whose nature, use, and excellent vertue, we shall speak in the following Chapter.

CHAP. IV.

Of the use of Bees.

WHereas the most high God did create all other creatures for our use; so especially the Bees, not only that as mistresses they might hold forth to us a pattern of Politick and Oeconomick vertues, and inform our understanding; but that they might be able as extraordinary foretellers, to foreshew the success and event of things to come; for in the years 90, 98, 113, 208. before the birth of Christ, when as mighty huge Swarms of Bees did settle in the chief Market-place, and in the Beast-market upon private Citizens houses, and on the Temple of Mars, there were at that time stratagems of enemies against Rome, wherewith the whole State was like to be surprised and destroyed. In the reign of Severus, the Bees made Combes in his military Ensigns, and especially in the camp of Niger. Divers wars upon this ensued between both the parties of Severus and Niger, and battels of doubtful event, while at length the Severian faction prevailed. The Statues also of Antonius Pius placed here and there all over Hetruria, were all covered with swarms of Bees; and after that settled in the Camp of Cassius; what great commotions after followed Julius Capitolinus relates in his History. At what time also through the treachery of the Germans in Germany, there was a mighty slaughter and overthrow of the Romans. P. Fabius, and Q. Elius being Consuls in the camp of Drusus in the tent of Hostilius Rutilus, a Swarm of Bees is reported to have fate so thick, that they covered the rope and the spear that held up the Tent. M. Lepidus, and Minus. Plancus being Consuls, as also in the Consulship of L. Paulus, and C. Metellus Swarms of Bees flying to Rome (as the Augurs very well conjectured) did foretell the near approach of the enemy. Pompey likewise making war against Caesar, when he had called his allies together, he set his Army in order as he went out of Dyrrachium, Bees met him and fate so thick upon his Ensigns that they could not be seen what they were. Philistus and Elian relate, that while Dionysius the Tyrant did in vain spur his horse that stuck in the mire, and there at length left him, the horse quitting himself by his own strength, did follow after his Master the same way he went with a Swarm of Bees sticking on his mane; intimating by that prodigy that tyrannical government which Dionysius affected over the Countrey of the Galeota. In the Helvetian History we read, that in the the year 1385, when Leopoldus of Austria, began to march towards Sempachum with his Army, a Swarm of Bees flew to the Town and there fate upon the tyles; whereby the common people rightly foretold that some forain force was marching towards them. So Virgil in 7. *Æneid*.

*The Bees flew buzzing through the liquid air;
And pitcht upon the top o' th' Laurel tree;
When the Soothsayers saw this sight full rare,
They did foretell th' approach of th' enemy.*

That which Herodotus, Pausanias, Dio Cassius, Plutarch, Julius Caesar, Julius Capitolinus, and other Historians with greater observation then reason have confirmed. Saon Acrephniensis, when he could by no means finde the Oracle Trophonius; Pausanias in his Boeticks saith he was led thither by a Swarm of Bees. Moreover, Plutarch, Pausanias, Elian, Alex. Alexandrinus, Theocritus and Textor are Authors that Jupiter Meliteus, Hiero of Syracuse, Plato, Pindar, Apinus Comatus, Xenophon, and last of all Ambrose, when their nurses were absent, had Honey dropt into their mouthes by Bees, and so were preserved. Xenophon also in his Oeconomicks calls making of Honey, the shop of Vertue, and to it would have matrons and mothers of families go to be instructed. The Poets willingly yeeld themselves to be compared with Bees, who following nature as their only Mistress, use no Art at all. And so Plato affirms that Poets were never able by Art to finish any master-piece. Insomuch that Pindar doth vaunt himself in this to be superior, or to go beyond Bacchilides and Simonides, in that he was taught by nature not by Art. Bees unless provoked are harmlesse, but being vext they will sting and that most shrewdly. Such is the condition of Poets: from whence are occasioned these verses of Archilochus,

*He that doth move me, quickly finds my sting;
I'll make him cry, and through the City ring.*

Wherefore Plato in his Minos gives it as a rule to those that desire peace and quiet, that they be very well advised how they intermeddle with Poets and Bees. To conclude, so many are their vertues worthy our imitation; that the Egyptians, Greeks, and Chaldeans took divers Hieroglyphicks from them; as when they would expresse subjects obedient to their Prince, they set it forth in figure of a Bee very singular in that vertue; when a King loving to his subjects, they portray it likewise and set it forth by a Swarm of Bees. Other the like emblemes are to be found in Pierins Hieroglyphicks worth the labour of searching for. From them the Countrey people learned their skill of prognostication of the weather. For they perceive wind or rain before

it comes, and foretells storms and showres that are at hand; when they are ready to come, they are sure not to fly far from their Hives, but will feed themselves with their own moisture. All those things being as they are, 'tis no wonder that *Aristeus*, *Philistrus*, *Aristomachus*, *Solenis*, *Menus Samnites*, and six hundred others that have wrote of Bees, have left the pleasures and delights of the City, and for 58 years to have lived in the woods, that they might be the more perfectly acquainted with their conditions and manner of life, and be the better enabled to commend them for an example to posterity. Neither was *Virgil* the worse for being so well seen in their History, the which he hath most elegantly set down in the fourth of his *Georgicks*.

But what their bodies and their labours do work upon our bodies, it is now worth the pains to relate; whereby we may assuredly know, that there is nothing in Bees but what doth serve for our health and welfare. For,

Their use in
Medicine.

First of all, their bodies as soon as they as they are taken out of the Hive, and pounded and drank with some diuretick, or wine and milk; do strongly cure the dropie, dissolve the stone or gravel, open all the passages of the urine, cure the stopping of the bladder. Bees that die in the honey, cure impostumes, and help the dullness of sight or hearing. Also being pounded together, they cure the griping or winking of the belly or guts, being applied to them. If poysoned honey be drank, they themselves being drank down after it, do expell it: they soften hard ulcers in the lips; being bound to a carbuncle or running sore, they heal it; they cure the bloody flux. Honey being strained with them, helps the crudities of the stomach, or specks or red pimples in the face, as you may see in *Hollerius*, *Alexander Bened.* and especially in *Pliny*. Take Bees dead in the combs, and when they are through dry make them into powder, as *Galen* in *Euporist.* writes, mingle them with the Honey in which they died, and annoint the parts of the head that are bald and thin haired, and you shall see them grow again. *Pliny* in like manner teaches to burn a great company of Bees together, and mingle the ashes with oyl, and anoint the part; only with this caution, that the adjacent parts be not touched therewith; yea, Honey scraped of Bees that are dead, he affirms to be very sovereign in all diseases, and very useful. *Erasis* in his 61. chap. de *Morb. mulieb.* tells us that their Ashes beaten with oyl is good to make the hair white.

Moreover, Bees are very profitable and useful in regard they serve for food to other creatures; as to the Bear, Lizzard, Frog, Serpents, Spiders, Wasps, Swallows, Houps, Robin-red-breast, Titmouse or Muskin; as *Belonius* hath observed.

Palladius saith, that some men are wont to take great delight in hunting after them; and he tells you how you shall finde them out in these words. In the month of *April*, in sunny places, if the Bees do frequently resort thither, either for food or water, then certain it is, that their nest or Honey-shop is not far off, but if there come thither but a few in a company, then 'tis a sign that they harbour farther off. But when they come very thick, by this trick you shall finde out their Swarms, take a little wet Oaker and mark them on the back, and there remain, while those that were mark'd return back thither again, if they make a speedy return, then they make their abode not far off; but if they tarry more then ordinary, then they reside farther off. Now by this means those that are hard by may easily be found out; but to come at them that are more remote and farther off, do thus; take a piece of a Cane and cut it off at either end at the joint, and make a hole in the midst of it; there put in a little honey, or sweet wine boyled half away, and lay it by the side of the fountain or water where they resort: when the Bees come thither, and are drawn in by the sent of the honey, hold your thumb close upon the hole, and suffer but one Bee to go out at once, follow that as far as you can well discern him, when that is out of sight let go another, and by this conduct at length you will easily finde the place where the Swarm is. If it be in some hole or cavern of the earth; make but a smoke upon the mouth of it, and all the swarm will hurry out, and when they come forth, being a little scared, with the tinkling of a brass pan, they will hang themselves upon a little bough as it were a bunch of grapes, from whence having a vessel to put them in, you may take them away. If they chance to make their nest in the arm of a tree, then take a sharp saw and saw off the bough above and below them, and cover the middle part where they are, with a clean cover, then carry them where you please, and put them in a Hive.

By this Art you may finde their Swarms where they use in woods, dens, or hollow places, stony or craggy rocks, or any place whatsoever: only see that you begin your sport betime in the morning, lest the night overtake you, and you lose your game. Neither only are they delightful sport to them that hunt them in the day time; but also (if *Fabritius* and *Artemidorus* do not deceive us) if a man light upon them in his dream when he is a sleep; if he be a poor man, it foretells he shall be rich; if a King or a great man, that his subjects, or those that are under him will be loving and obedient. But he that dreams he had a stock of Bees, but in present hath them not, 'tis a sign of a decaying estate, and of some imminent approaching disaster to befall. Of so great use are Bees: and so variously hath dame Nature the contriver of all things, sported herself, or rather taken great pains indeed in furnishing them with such rare qualities of all sorts, as wherewith you have heard them to be endowed.

But to what purpose is (will you say) that sting, against whose poyson and venom *Pliny* himself knew no remedy? I confess, and experience teacheth as much, that Bees stings are some times

times venomous; but it is only of those Bees which are raving mad, or burning with some fever, anger, or hunger. Otherwise they do little or no harm at all, and therefore *Diocorides* did not deign so much as to mention the symptoms of the stinging of Bees, supposing it a childish simple thing for any man to much as to complain of the sting of a poor little Bee: later writers observe that the sting is accompanied with redness and tumor, especially if the sting do yet stick fast in the flesh, which if it go in very deep sometimes proves mortal, as *Nicander* writes in his *Theriaca*. The Ancients (that we may prove the sting of Bees to be converted to some good use) as *Suidas* reports, were wont to punish cheaters with them on this manner: They strip the malefactor stark naked, and besmeared his body all over with Honey, which done, and his hands and feet being bound, they exposed him to the heat of the scorching Sun, that what with the piercing rays beating upon his body, what with the stinging of the Bees and flies, and their often stabbing and wounding him, he did at length suffer a death answerable to his life. But if you would indeed resolve to go sting-free, or at least heal yourself being stung; expell out of your minde, idleness, impiety, theft, malice: for those that are deild with those vices, they set upon to chuse as it were, and out of natural instinct. Beware also in especial manner, you wear not red garments, which might represent you to them, to be a murderer or man of blood; as also that you be not taken by them for an unchaste or unclean person, which it seems they naturally know and abominate (as hath been said before) They which carry the bill of a Wood-pecker in their hands when they come near them, although they do somewhat disturb their Swarms, yet (as *Pliny* saith) the Bees will not hurt them. *Nonnius* reports, that if you rub and beat to powder the herb called Balm-mint, or Balm-gentle, their stings will not be able to hurt you. *Florentius* gives in charge, that he that is to gather the honey should annoint himself with the oyl or juice of Marshmallows, whereby he may take away the combs without danger. But the juice of any Mallows whatsoever will do the like; and the better if they be rubbed with oyl; for it doth both preserve from stinging, and is a remedy to those that are stung. But be it granted that diseases be contracted by their stings; yet tis but taking a few of these Bees that are found dead in the Honey, and let them be carefully applied, and they presently cure them; and take away all the venome and aking of them.

What shall I say? God never created a creature lesse chargeable, and more profitable. They are bought for a very little money, they will live in all places whatsoever, even in woody and mountainous Countreys. The poor as well as the rich gain a great return or revenue by keeping of them, and yet need they not put more in the pot, or keep a servant the more for them. *Merrula* reports that *Varro* rented out his stocks of Bees, for 5000 *l.* of Honey; and in *Spain* out of a little Village containing not above an Acre at most, that he gained of the Honey there gathered 10000 *Sesterces*, i. e. 50 *l.* of our English money in one year. Besides all this, we have from their shops or store-houses, Wax, Bee-bread, Bee-glew, Rosin, Honey-combs such as no Common wealth can well be without; not to repeat their virtues, which are no less wholesome for the minde, then those are profitable for the body and maintenance of life. And first of all we will treat of Honey, that immortal, nectareal, pleasant, wholesome juice, and principal of all works and operations.

CHAP. V.

Of the Name, Difference and Use of Honey.

AT the first Honey had but one name, called in the Hebrew *Dabesch*; but since that strange and confused Polyglottology, or speaking with divers tongues it was called of the inhabitants of *Arabia*, *Hel*, *Han*; of the French, *Miel*; of the Italians, *Mele*; of the Dutch, *Honich-zeem*; of the Germans, *Honig*; of the English, *Honey*: the Greeks called it, *uui*, from the admirable care and industry of the Bee in making of it, as *Eustachius* notes: from whence comes *μελισσιον*, *Melissellum*, of *uui*, in *Porphiry*. This for the Name: But what it is yet after all is much controverted amongst the learned. Some there are that fondly conceit it to be the spittle of the Planets, or the gelly falling from the Stars; others, the purging of the Air, or the sweat of the Heavens; but in my judgement it may more properly be termed the *Chylus* of the Bees, gathered from some sweet matter, but having its perfection and consummation from their ventricles; and afterwards by exuption or vomit cast out into the cells or Honey-combs. *Aristotle*, *Pliny*, *Aelian*, *Seneca*, would have the Bees not be makers of the Honey, but only gatherers of it: for thus they write: The Bees, (say they) do gather the Honey from the dew of the air, especially at the rising of certain Stars, and from the conjunction of the Rain-bow; for they make no Honey, but Honey-combs only. *Galen* also lib. 3. de *Alim. fac.* hath these words: I remember (saith he) upon a time, in Summer we gathered a great quantity of Honey from the leaves of the trees, and then the Countrey in way of sport sang, *Jupiter* rains Honey. But then the night before had been exceeding cold, as it could be in Summer, by the strength whereof the sweet exhalations, and vapours being drawn up by the Sun were congealed together. Now with us this is a very rare accident; but in Mount *Libanus* it happens every year: and therefore they spread skins upon the ground

ground under the trees, and shake them, and the Aerial Honey that falls from them, they put up in pots, and earthen vessels. Now Honey, as all other things, do differ in substance or matter, it is either Aerial or Terrestrial; Aerial Honey is one thing, Terrestrial another: For in the moneths of *May, June, and July*, a kinde of heavenly Ambrosia falls down upon the leaves of plants (which they call honey dew, but I rather mieldew) very sweet in taste, liquid, pure, and as sweet as sugar it self; this being gathered and drank in, the Bees I grant do ripen or bring to maturity, but that they make any real mutation, I constantly deny; unless perchance you will say that the refining the dew, is an alteration of the species. *Gal. lib. 3. de Alim. fac.* affirms that the matter of Honey is not the very dew it self, but something near of kin to it: the which Bees gathering do cast up again into their cells, but they do not change the species of the juice; as *Avicen* also saith. But this aerial dew, of which this aerial Honey is gathered is of two sorts; coagulated or thickened Manna; and liquid, of which the best Honey is made; especially if it retain the same vertue it had when it first fell: but falling from such a height, and even with the very sliding of the fall by reason of the impurity of the air contracting delement, and being infected with the exhalation of the leaves, and juice of the flowers upon which it lights, it looseth much of that heavenly vertue, although some remain, and being so often shifted in the ventricles of the Bees, cells, honey-combs, it hath some strange qualities joyned to it. But in the beginning, Honey is like pure rock-water; and in the first daies it boyls like new wine, in the 20. day it waxeth thick, a while after it is covered over as it were with a thin film or membrane, which with the froth of the heat of it, congeals together. Terrestrial or earthy Honey we call that, because the dew going away, it is sucked out of the very sweat of the earth, and the sweeter part of the plant, of a thick substance indeed, and a quality answerable to that from whence it was extracted. And from thence it takes the name of Grasse-honey, Bean-honey, Lilly-honey, Violet-honey, &c. respect being had to those things from which it is collected or gathered. But that Honey is best for substance, which is of a fat oily consistence, partaking of both, which doth of its own accord run out of the combs, (in Greek called *ἀκρόσφορ*; or rather *ἀνεσφορ*) and doth not abound with dregs, and is quickly boyled, and doth cast up very little or no scum; and alwaies so tenaciously sticking together, that if you lift it up a good height on the top of you finger, it falls to the earth still homogeneous, unsevered, no way parted asunder, but remains in one continued flake, or line. And to conclude, that which if fire be put to it, will soonest arise in flame. Unless there be all these properties or most of them in your Honey, you shall discern the substance not of good Honey indeed, but of base, adulterate, impure trash.

The best Honey how known.

Accidental properties of Honey.

The Accidents or accidental properties of honey, are likewise some good, some bad, both of them are taken from the season, place, quality. If you respect the time or season, the newer the honey the better it is accounted, and the Spring or Summer honey far beyond that is gathered in Autumn. The first of these is gathered from flowers only, and those very tender and newly budded (thence called *Anthinum*, or Flower-honey). The second is collected of nothing but herbs, and ripe flowers, thence called *ἀνέσφορ*, or Summer honey. The third, last and worst, is had after the first Autumnal showres, and that very sandy or gritty and woody, gathered only of Heath or Ivie (which are then the only things green that are left) and from thence is called *Ericaun*, Heath-honey or Ivie-honey: all which (as I said before) have their greatest commendation from their freshness or newness, because with long keeping and concocting, they wax bitter; from whence the Proverb, He that will make a good mixture of wine and honey, must mingle with new Hymettian Honey, old Falernian Wine. It is also better or worse in regard of the place whether proper or common. If you respect the proper place, or the vessel wherein it is contained; the best honey is still found in the bottome, for the dross which is contracted either by soyl of herbs, or by the air while it falls from so high a place, is cast up to the top as froth; and in the bottome it is found to be more glutinous, ponderous, luscious, and better compacted.

In what countreys the best Honey is to be found.

If you would attend the common place or region wherein it is gathered; according to the nature of the Countrey, so is the value of it.

In the first place and above all other, the *Attick, Athenian, Hymetick*, especially, when made in the silver Mines, hath been hitherto adjudged the best honey, both in regard of the excellent nature of the Bees themselves, as also for that those Countreys do abound with Thyme and other choice plants and herbs, and likewise in regard of the goodnesse of the place where the combs are made. *Dioscorides* gives the next place, to the Islands of the *Cyclades*, or the *Aegean* Islands (which is very luscious and pleasant, and welnigh as good as the *Attick*) And the third and last place to the *Hyblean*, and *Sicilian*.

Johan. Bauhinus a very learned Physician, and surpassingly well seen in the knowledge of simples, saith that he saw of this *Attick* honey in *Verona* in an Apothecaries shop, which he found put up in the bladder of an Elephant, very thick, and weighing 21. pounds, of the length of two cubits, of the breadth of a cubit and a half. I suppose it was brought thither out of *Africk*, for how should an Elephants bladder be had in *Athens*? In the judgement of *Cardanus*, that honey which comes from *Cephalenia*, an Island in the *Ionian* sea is the best; next to that in *Europe*, is the *Spanish*, and that not without reason; in regard the dew for the most part in those hotter regions is better concocted: and (in all Countreys) where the purest air is, there is the virgin Honey (*i. e.*) pure pale, and is made up as it is, having no need of fire to purge it. The *Taren-*

fine honey is also commended, as *Strabo* reports. About *Tagodast*, *Melelas*, *Hea*, *Hascoria*, the iron Mountain *Rhahona*, *Echebdebona*: *Jo. Leo* saith there is very excellent African honey made. *Ludovicus Cadomus* prefers the honey of *Sinegen*, *Andreas Corsalius* the Mombaren, *Edorades Barbosa* the Ethiopick, *Thomas Lopius* the Cathaian, *Franciscus Alvares* the Tigrémahonensian, *Sebastianus Baro* the Samogitick, *Enricus* the Lituanian, *Erasmus Stella* the Russian, *Thevet* the American, *P. Iovius* is exceeding much in the commendation of *Moscovy* honey; but not so advisedly, in as much as our Merchants, and *Sebast. Baro* a very impartial writer of those things which are seen and done there, do very seriously affirm that in all the Dukedom of *Mosco*, there are neither Bees nor honey. *Albert. Campensis* in his history of *Myfia* which is called *Britus*, saith that even in the *Hercinian* woods, there is extraordinary good honey to be found, and that altogether as good as the *Cecropian* or *Attick* honey may be. *Alianus* affirms that in snowy and icy *Scythia*, there is Countrey honey very praise-worthy; and that it is carried to *Myfia* (where it is sold at a very dear rate). But if the heat of the Countrey doth add to the honey pureness and goodness, how is it possible such excellent honey should be had in *Scythia*, and *Samogithia*? Is it because the flowers there growing and receiving the dew are better then in other places, and by that means cause it to be clearer and purer? Or is it because of the North winds which are most frequent in those parts, which do purge the air? Or is it because as well Bees as men there are of more strong constitutions, and therefore are better able and do take more pains to refine and work the honey in their ventricles? which is the more likely, seeing they were not able to live at all in that cold region, nor could not arrive at such an Age (for there they live very long) if they were not very healthy and lusty of body.

Now whereas *Cardan* denies that there is any exquisite honey made in moist Countreys: let *England* and *Ireland* challenge him for their right; which being obnoxious to showres and very much rain, a thing fatal to Islands, do yeeld such extraordinary pure honey, that it hath not the least mixture of venome, and doth last a long time before it be corrupted or putrified; that we do not speak of its excellent whiteness, hardness, sweetness, hanging well together, viscosity and ponderousness; and other principal signs of the goodness of it; but let us leave off to commend our own Countrey wherein good is to be found; and set forth those Countreys which are infamous for the badness of it. For the extreme bitterness the *Cholchian* honey, and next the *Corsican*, and in some places the *Hungarian*, and the *Sardinian* hath an ill name. For in *Sardinia* Wormwood, What Countrey produces bad honey. in *Corsica* Rose-lawrel, in *Colchia* the venomous Yew, and all of them in *Hungary*. Also the honey is venomous in *Heraclea* of *Pontus*, and in the flowers of Goats-bane fading with the wetness of the spring; for then the flowers contract that hurtfull venome; which doth presently infect the honey-dew that falls upon them. There is also another kinde of pernicious honey made, which from the madriels that it causeth, is termed Mad-honey; which *Pliny* conceiveth to be contracted from the flower of a certain shrub, very frequently growing there in the woods. *Dioscorides* and *Actius* do not amiss impure this poyson to be caused of great plenty of the venomous herb called Libbardsbane, or Wolf-wort which groweth there; in that it is cured with the very same remedies as the venome of that herb is. In *Carina*, *Persis*, *Mauritania* and *Getulia*, bordering to *Masseulia*, either by reason of vapours of the earth, or by reason of the virulent and poysonous juce of the plants, poysoned honey-combs are produced; but are descried by their duskie or blackish colour. In *Trapezuntum* in the Countrey of *Pontus*, *Pliny* reports of a certain honey that is gathered of the flowers of the Box-tree, which as it doth make those that are well sick with the noysome smell of it, so those that are not well it restores to health. On the trees of the *Heptocometanes*, a people near unto *Cholchia*, there growes a kinde of infectious honey. The which poyson being drank makes men stupid, and out of their wits. This was sent by the enemy to the three Legions of *Pompey* with a token for the desire of peace, they drinking very freely of it, were put both besides their wits, and their lives too (as *Strabo* saith). *Ovid* makes mention of the *Corsick* honey very infamous, being extracted from the flower of *Hemlock*, speaking thus:

*I think it's Corsick Honey, and the Bee
From the cold Hemlocks flowers gathered thee.*

But yet it may seem to be not so much for Dame Natures honour, that she should bring forth a thing so desired of all men, as honey is, and so ordinarly to temper it with poyson. Nay but in so doing she did not amiss, so to permit it to be; that thereby she might make men more cautious and lesse greedy, and to excite them not only to use that which should be wholesome, but to seek out for Antidotes against the unwholesomeness of it. And for that cause she hath hedged the Rose about with prickles; given the Bees a sting, hath infected the Sage with Toad-spittle; mixed poyson (and that very deadly too) with Honey, Sugar, and Manna.

The signs of poysoned honey are these, it stains the honey-comb with a kinde of Lead-colour, The signs of poysoned Honey, and the remedies against it. doth not become thick, it looks of a bright shining glistering hew, sharp or bitter in taste, and hath a strange and uncouth smell; it is far more ponderous, then the other, as soon as it is taken it causeth needling, and a looseness of the belly, accompanied with excess of sweating. They which have drunk it do tumble themselves up and down upon the cold earth, very desirous of refrigeration. The *Heracleian* poyson'd honey hath the same symptomes with the poyson of Wolfs-bane, and

and hath the same way of cure. *Galen* reports that two Physicians in *Rome* tasted but a very small quantity of poysoned honey, and fell down dead in the open Market-place.

Against madness from eating honey, *Dioscorides* prescribes Rue to be eaten, and salt fish, and honey and water to be drank, but being taken they must be vomited up again; and he prescribes the same remedie against this disease, as he doth against Wolfs-bane, and Rose-lawrel: and *Pliny* agrees with him; also he adds one singular antidote, to eat a fish called a Gilt-head, which also wonderfully corrects the loathing of good honey. *Gulielmus Placentia* bids to cause vomit abundantly, with syrup of Violets, acetosus simplex, and warm water, eating salt fish before vomiting. Afterwards he gives Theriac with hot vinegar. *Christophanus de honestis* perswades vomiting, and to set cold water under the nostrils, with the flowers of Violets, Water-lillies, and Fleawort. But his Bezoar stone, are Quince kernels bruised, and given with hot water, as *Sanctus Ardoinas* relates. *Avicenna* hath prescribed nothing worth speaking of, but what he had from others: for I understand not what he means by his *Animeli*.

But what if I a youth and an English man, after so many grave and experienced Physicians should asserit this for a certain Antidote, viz. to take nothing down but the Bees themselves. The likelihood of the conjecture doth perswade, and reason it self doth somewhat seem to favour it: For unless that Dame Nature had given to these Bees, a very marvellous power against poysoned honey (as amongst men to the Philli against Serpents, to Storks and Peacocks amongst the Birds) without all doubt with gathering of it, swallowing of it, and for some time keeping of it in their bodies, yea concocting of it there, they would be grievously pained, and the poyson running and dispersing it self through all the parts would kill them.

Now the Terrestrial honey, although it be not alwaies poysonous, yet by reason of the blackness and clamminess of it, 'tis not much to be commended: also it is often found to be subject to be infected by the venomous breath of Serpents, Toads, red Toads, and therefore is carefully to be avoided.

The temper of
Honey.

Now let us come to the Qualities of Honey; whereof some are first or primary, others derived from them; some formal, some specifical, which we deservedly call Energetical, or operative. In respect of the first Crasis or temper, Honey is thought to be hot and dry in the second degree; for which cause *Galen* did forbid those that are in Hectick Feavers, and in all Feavers, young men, or those that have the yellow Jaundies to use it; whereas in cold distempers he doth very much commend it, and did prescribe it to those that were troubled with a raw and watry stomach; whom if you gently anoint therewith, it doth very much nourish, and causeth a good colour and constitution of body. If you desire to know the second qualities of honey, (viz. the smelling, tasting, visible, tactile) the best honey ought not to have the eminent quality of any herb, or other thing whatsoever: and therefore the honey that, doth strongly smell of Thyme, *Galen* rejects; and yet is of it self a most sweet and fragrant smell, and not without a certain spirituous fragrantcy; such is that which in the middle of the spring, is perceived to be in the air about break of day. But if it have an ill savour, it is putrefied not being well kept. If it smell strong, it hath contracted some contagion from Hemlock: if it sting as it were and prick the nose with its sent, it is an argument of some poyson, or too much acrimony couched in it. If it smell not at all, it is stark dead, no spirit in it. If it smell of Thyme, Linden, or Teil-tree, Rosemary, Box, Wornwood, &c. it shewes that it is degenerated into their nature. The like is to be said of the Taste of honey, which is known either by the herbs, age of it, or by the colour of it to be mixt, or adulterate, or natural, that is to say, striking, and filling the tongue with a certain fine and lively sweetness, so that it may seem to some to be a little tart.

As for what concerns the colour of the best honey; in the *Tigremahonick* and *Tagadosick* Region, that of a milky colour is preferred in hotter Countreys, that which is white and transparent, but commonly that which carries away the garland and is esteemed above the rest, is yellow, and of the colour of Gold. And in the second rank is that which is white and transparent, which I with *Aristotle* should put in the first place. For that it is a sign of pure honey and not infected with any tincture of herbs. The bright shining is also by him commended if it be not summer honey, for the honey that is gathered at that season of the year (like wax or butter) either by reason of the abundance of yellow flowers, or the scorching heat of the air, it comes to be of a deep and full yellow, yea almost quite red. But if the Erycan or Anthine appear reddish, it is not without cause accounted unwholsome, because it is not in its season. Suspected and of ill name, are the black, duskie, bright red, and above all the lead colours, which whether they appear in the comb, or in the honey, sometimes are evident signs of corruption and putrefaction, and sometimes of poyson. That honey is best in touch that is fat, clammy, glutinous, heavy, and most like to the clear liquor of Turpentine every where like it self, that is pure without any, or with very few dregs, that is melted with a very soft fire, and with the least cold as it were congealed into little stones.

The Energetical or operative qualities of honey are seen in the use of it; the which is of divers sorts, whether you turn you to the Apothecaries shop, or to the Kitchen, for so mightily doth it nourish, and preserve health entire, and men long-lived, that the *Greeks* thought the *Cyrneans* by reason of their constant using of it, lived long, being old men, as *Herodotus*, *Athenaus*, and *Diodorus Siculus* testifie. *Pollio* indeed being asked, how it came to pass that he lived to be so old as he was, made answer, Because from his youth he used Oyl without his body, and Wine mingled with

Honey

Honey within. More then this all flowers, fruits, simples, and compounded medicaments, or confections by mingling them with honey are preserved entire from putrefaction; in which faculty or virtue it so excels, that even the *Babylonians* were wont to bury the dead corpses of their noble men in it; as *Herodotus* witnesseth in *Thalia*. Vintners also and such as deal in Wines that will play the knaves, when they observe a piece of Wine decaying, and at its last almost, then they put honey to it, to bring it to life again; by which means the sophisticated wine appears pure, and relishest very well upon the palate, though never so critical and curious. It is not subject to putrefaction. Fruits, and all other bodies are kept in it very long. Yet if it be but touched by its enemy, bread, it putrefies. They therefore that sell honey, are very wary, lest children as they pass by should dip their bread in it: for so it will presently corrupt, and turn into Ants or such like creatures; if we will believe *Paracelsus*, for his natural skill, in the nature of things, a most famous Philosopher. With admixtion of honey also *Galen* amendeth the naughtiness of sweet meats when they begin to fail. Honey mingled with other things, doth both nourish and cause a good colour; but taken by it self without any other thing, it doth rather make the body lean than nourish it; because it doth cause urine, and purge the belly beyond all measure. *Hippocrates* saith, if you take the seeds of Cucumers, or the seeds of any other plant, and keep them for some time in honey, and afterwards sow or set them, the fruit that groweth of them will taste the sweeter.

As for the medicinal and Physical vertues of Honey; It causeth heat, cleanseth sores and ulcers excellently, wears them away, and removes them in what part of the body soever gathered: as *Galen*, *Avicenna*, *Celsus*, and *Pliny* have observed. It perfectly cureth the disease which causeth the hair of the head or beard to come off by the roots, called the Foxes evill, and other filthy ulcers of the head. *Plin.* To regain hair lost by the disease aforesaid, and for long Agues, it is very effectual, if the party be anointed with it raw as it is; or with the honey-comb newly dreined or emptied. *Galen.* But above and beyond all, the Oyl of honey distilled doth effect it. The water that droppeth from the honey, doth excellently cleanse the skin, provoke urine, extinguish the burning heat of Feavers, open the obstructions of the bowels, quench thirst. The chaulk or salt of it, as it is of all corrosives, the least painful, so it is most energetical and operative, and therefore is very much commended by Chymicks, and Chirurgeons, for to cure that kernell or tumour of flesh which groweth upon the yard. But how many, and how ample vertues that quintessence of Honey (as they call it) hath attained against the strength of all diseases whatsoever, is excellently described by *Isaacus Belga*, the predecessor of *Paracelsus*. Nay without doubt, if wilde honey, and raw, was able so to prolong the health and life of *Democrates*, *Pollio*, *John the Baptist*, in a word, of the *Pythagoreans*, and *Cyrneans* (as aforesaid) how much more will it do being refined, and heightened to the highest degree of nutrition? The *Epicureans* who took the best way they could to provide for their health and their pleasure, fed alwaies upon Ambrosia, as *Tertius* reports, which did consist of a tenth part of honey; as if they meant by the use of it, to stave off all pains and griefs, and live free from all diseases and maladies. It doth wonderfully help the ulcers in the ears if it be powred warm into them, and especially if an ill sent be joyned with them. Moreover in their hissing, noyses, inflammations, *Galen* commands to intill Attick Honey, Butter, oyl of Roses, and as much warm water *Marcellus Empyricus* used to infuse into the ear that was pained. The same also very much commends honey mingled or kneaded with the ordure of a young Infant, to cure the dulness of the sight, and the white spots in the eye. *Vegetius* by this means cures the watery eyes and dropping of the eyes caused by rheume or distillation. First of all a little below the eye he drawes blood and anoints them with the purest honey till it be whole. But yet care must be had (as *Columella* very well hints) that as often as the eyes are anointed with honey, they be besmeared round about with melted pitch and oyl, lest the Wasps and Bees infest and hurt them. Hear also what *Marcellus* saith, touching the clearing up of the eyes, and he prescribes this: The honey pure and neat wherein the Bees are dead, let that drop into the eyes; or honey mixt with the ashes of the heads of Bees, makes the eyes very clear. And again mingle Attick honey with the first ordure the Infant makes, together with the milk of the Nurse; and with that anoint the eyes that are so dull what ever the cause of it be; but first of all you must binde the patient to a form or ladder; for otherwise such is the strength of the medicine, that he will not be able to endure it. Which is such a present remedy, that in three daies, it will fully restore the sight, and take away every blemish of the eye. The Gall of a Vulture mingled with the juice of Horehound (twice as much in weight as the gall is) and two parts of honey cures the suffusion of the eyes. *Gal. in Empirist.* Otherwhere, he mingles one part of the gall of the Sea-Tortoise, and four times as much honey, and anoints the eyes with it. *Serenus* prescribes such a receipt to cause one to be quick sighted.

Mingle Hyblean honey with the gall

Of Gents, 'tis good to make one see withall.

Give Infants butter and honey, for nothing is better for their breeding teeth, and for sore mouths. *Galen* bids us rub their gums with nothing but honey. For it wonderfully helps to their breeding of teeth, preserving, cleansing and beautifying of them. Also against the pain of the jawes. If with Arabian honey you joyn field-poppy, it cures it. And sometimes pure honey is

The medicinal
vertues of Honey.

is mingled with clear water: and this, as *Serenus* and *Pliny* testifie, doth notably cure the driness of the tongue in Feavers, the Quinsie, and the diseases of the Uvula, Throat, Jawes, of the Tonsils; against difficulty of breathing, and to cause one to expectorate, either by it self, or mingled with other things, it is highly commended by *Hippocrates*. And for the convulsion of the laps of the lungs (which useth to be a deadly disease) the drinking of cold water, and of that wherein a honey-comb is steeped is very effectual. Also, if the stomach be not hot, cholerick, bitter, nauseating or feaverish, it makes it strong and vigorous, and nourisheth it much, not suffering milk to curdle in it: it cleanseth the reins, boyled with water and butter it is good against the stone. *Avicenna*. It easeth the pain of the spleen, but it must be outwardly applyed with the dead Bees; for taken inwardly it hurts both the liver and the spleen, saith *Galen*. When it is raw it looseth the belly, but boyled with the Bees, or with new cheese it bindes the belly so much, that *Galen* holds it to be a secret against the Dysentery and colick passions: so doth *Celsus* also and *Pliny*. *Hippocrates* mingled honey with all Medicaments that were to soften the belly. Honey mingled with rosin, is a cure for the cold Testicles, as *Pliny* saith, who also affirms that the ashes of Ox-leather mingled with honey, cures all running sores, and botches. Nitre with honey and Cowes milk, cures ulcers of the face; and the froth of honey with oyl of Walnuts, amends the burning of the skin: it is excellent for old people, and such as have cold stomachs; and being boyled it discusses wind, and moves urine mightily. *Galen*. *Hollerius* reckoneth honey amongst Diaphoreticks, because it openeth and maketh the passages clear: *Galen* placeth it amongst Diureticks. It layeth down its acrimony by being mingled with water, or being boyled; and therefore *Galen* prescribes boyled honey, to close up ulcers that are hollow. Salt with meal and honey takes away the pain of a joynt that is dislocated, discusses the swelling, and makes it more apt to be reduced. I might hereset down the plaister of *Actius* and *Aegineta* called *Diamelleum*, the Tapimel of *Arden*, and all syrups that were anciently made of honey. In whose place the Neotericks have put sugar, but I know not by what reason. For if honey of *Athenis*, or some as good, be at hand, and doth not want its due preparation, do not use sugar that is earthly, reedy and so full of dregs, nor comparable either for use, original, or any way whatsoever with this heavenly dew honey. But to let this pass, let us reckon up the kinds of drinks and meats made of honey. Six kindes of honey-drink the Ancients made principally. Honey and water, honey and wine, honey and vinegar, the washing of the combs, juice of some grapes and honey, sea-water and honey.

The first is called by *Pollux* and *Nicander*, *Hydromel*, or *υδμελις*. *Galen*, *Pliny*, *Aegineta* and *Dioscorides* have set down the making of it. *Hydromel* of *Galen*. Take sweet pure clean fountain water 8. pounds, the best honey 1. pound, boyle them at a soft fire in an earthen vessel, take off the skim a top oft times, and boyl it to its thickness. If it must be drunk presently, it must be made thin as water, if it must be set up to keep, boyl it longer, till it be thick, as a julep; if it be kept long it pierceth deeper into the parts far off, and is sooner converted into choler. Also boyling acquires to it many more faculties; for being little boyled it inflates more, it purges more, and nourisheth lesse. Longer boyled, it dissipates wind, nourisheth more and purges lesse. It is spiced at pleasure, with Ginger, Saffron, Gallia Moschata, Lignum aloes, &c. It is made also another way, of honey 1. pound, water 8. pound, leaven 3. ounces; put all in a wooden vessel, leaving three or four fingers empty that it may work the better: when it hath done working, stop the vessel and let it be well hoopt, and after three months it will be fit to drink. *Hydromel* of *Pliny*. Take of pure rain-water that hath been kept five years, 12 pound, boyl it to thirds, add to it a third part of old honey, and in the dog-daies set it in the sun for 40 daies, and letting it so stand, on the tenth day stop the vessel, this is called *Hydromel*, that with age will taste like wine, made no where better than in *Phrygia*. It was given to sick people that desired wine, but now it hath been forbidden many years. *Hydromel* of *Aegineta*. Take the juice of bruised Quinces 5 pounds, fountain water Sextarii, boyl them till they grow soft, take them from the fire, let them cool, then strain them, and crush out the Quinces and cast them away, add to this water half honey, boyl it, scum it, till an eighth part be consumed: some make it of sweet Apples or Pears the same way. *Hydromel* of *Dioscorides*, is made of two parts of old rain-water, and one part of honey mingled, and set in the Sun. Some call it *Hydromel*, because it is wont to be made of the washing of the honey combs with water, but it must not be made stronger, because it will hurt sick people by too much matter proceeding from the wax. *Hydromel* after it hath been long kept, is as strong as small wines, or Lora, being but half so old. Wherefore it is preferred before them in abating inflammations. The use of old Metheglin is condemned, for such as are inflamed or costive, but it is good for weak stomachs, and such as loath their meat, or sick people that sweat much, or for those that are thirsty, or after a burning feaver hath wasted a man. *Actius* describes a Clyster only of honey and water to move the belly, and with the same he cleanseth hollow ulcers. *Galen* commends, and uses Melicrate (wherein some Hyssop, Origanum, or Thyme, or Peniroyal hath been boyled) to prepare and purge gross humours in an acute disease, but he commends it not for the want of a stomach. Lately the English found out a new composition of *Hydromel*, (they call it *Varii*) and serves better for ships than any Wine. The preparation is this, Take Barley torrefied after due steeping in water, what you please, boyl it long in 5 quarts of fountain water, till it taste well of the malt: 1 pound of this boyled with 8 pounds of honey, and 20 pounds of water, makes a drink that taste most sweet,

sweet, and is most healthful for use. It nourisheth well, is hardly corrupted, and keeps very long. *Hydromel* of the *Moscovites*. Take of the decoction with Hops 12 pounds, purified honey scummed 1 pound and half, toasted bread strowed with the flour of malt, one piece, put all into a wooden vessel well covered, and place it near a stool, take away the froth that riseth, twice a day, with a wooden skimmer that hath holes in it; after 10 daies set it up in your cellar, after 14 daies drink it: They make it the same way in summer with fair water, and made this way they drink it in winter, and when they desire to be drunk. In Russ and English they call it *Mede*.

2. *Oenomeli*, it is called honeyed Wine. *Pollux* calls it *Melicraton*; *Plautus*, honeyed Wine, others call it *Mulsum*. *Aristeus* was the first that brought this into *Thrace*, being taken with the incredible sweetness of Honey and Wine mingled together. *Mulsum* made of honey of *Heraclaea*, when it growes old ceaseth to be hurtful. *Pliny*. The new writers describe this potion thus, Take 1 gallon of the best Honey, 6 gallons of old Wine, Salt 2 ounces; it must then be skimmed as it works, then put in the Salt, and season it with Annise-seed, and roots of *Elecampane* let down into the vessel with a bag. The *Egyptians* make it otherwise, namely of Raisins and Honey, which they call *melichron*, because it is of a very sweet taste. *Oenomeli spiced*. Take Pepper washed and dried, 8 scruples, *Athenian* Honey 1 sextarius, and 5 sextarii of old white Wine, mingle them. *Celsus* (as I remember) and *Calins* speak of it. *Aurelianus* in the cure of the *Sciatica*. Also there is a kinde of *Mulsum* which the Greeks call *Kuon uiza*, consisting of 36 ingredients. *Goreus*. May be it is the same which *Athenaus* calls *uina uinea*. For *uineus* is a drink made of Wine and Honey, and divers herbs mingled. Such as our *Welch* men call *Merheglin*. The *Irish* prepare a distilled *Oenomeli* made with Honey, Wine and some herbs, which they call *Usguebach*, not unfit for a nation that feeds on flesh raw, or but half sod. *Mulsum* made of sweet new Wine the Greeks call *Nectar*; to new Wine sodden, they add a tenth part of Honey, but this kinde is offensive to the stomach, and causeth windiness; it is given to purge the belly. *Hippocrates* calls it *Melibedia*, and *Melichronas* *Galen* notes. *Athenaus* writes that another kinde, which was true *Nectar* indeed, was wont to be made about *Olympus* a Mountain of *Lydia*, of Wine, Bees-combs, and sweet flowers. I take notice that *Alexandrida* did not think *Nectar* to be drink, but the meat of the gods. For he saith, *I eat Nectar chewing, and ministering to Jupiter, I drink Ambrosia*. Yet *Homer* and the greatest part of the Poets took *Nectar* for drink. *Dioscorides* made *Oenomeli* thus, Take old Wine 2 Sextarius's, the best Honey 1 Sextarius. Some that they may drink it the sooner, boyl honey with wine and strain it. Some for profit sake to 6 sextarius's of new wine working, add one of honey, and when it hath workt, they put it up in a vessel, for it remains sweet. The use of honied Wine is this: It is given in long Feavers that have weakened the stomach with crudities collected in it. It looseth the belly gently, it provoketh urine, it cleanseth the stomach, it is good for the disease of the joynts, faults of the reins, a weak head, and to women that drink no wine, for it is pleasant in smell, and nourisheth the body. It moveth vomit drunk with oyle, and it is profitably given to them that have drunk poison; as also for such as are weak, and their pulse is feeble; for such as are troubled with a cough, and a short breath, or *Impostume* in the Lungs, and those that are wasted with extream sweating. But then it is for to mingle it with *Hydromel*. Also *Galen* prescribes to them *Melicate* qualified with water, that have had a shaking fit not above a week, and nature being yet strong. Some there are that utterly condemn this in Feavers: but that must be understood of some times in Feavers. *Romulus*, a certain guest of *Cæsars*, being asked how he had preserved the natural vigor of his body and minde so long, (for he was above a hundred years old) he answered, Without with oyl, within with honey and wine sodden together, as *Pollux* did: That we may the more wonder at the use of *Mulsum*, which the Ancients esteemed very much, for that they were perswaded that all acrimony of the minde, was pacified with sweet liquors, and the spirits made peacable, the passages made softer and fitter for transpiration, and that it was also physick for manners. *Plinius*.

3. *Oxymeli*, or honeyed Vinegar is thus made, as *Pliny* thinks. Take honey 6 pound, old Vinegar 5 *Hemina*, Sea-salt 1 pound, rain-water (which *Galen* likes not of) 5 sextarii. It must all be made scalding hot ten times, and then set in the Sun, till it grow stale, and *Oxymel* is made. But it lasts not above one year. All these, as also all made Wines are condemned by *Themison* a chief writer. *Galen* prepares it thus. Let the best honey be clarified, and add so much wine-vinegar to it, that it may please the sick mans palate, boyl them till they are well mingled; and when you will use it, mingle as much water as you please: it is boyled enough when it sends forth no more scum. Some there are perhaps that deliver these compositions somewhat otherwise, and *Dioscorides* he differs from *Misue*, and *Nicolaus* from them both. In *Misue* you shall finde ten several sorts of it; in *Nicolaus* I have seen seventeen: some simple, some compound with Squills, Thyme, Flower de luce, and other herbs and roots.

Also *Gesner* brought in an *Oxymel* with *Hellebore*, which he commends not a little in his Greek Epistle to *Adolphus Otto*. To make thin, thick and clammy humours, and to root them out; but especially to make way for insensible transpiration, that is to draw forth from the center to the superficies of the body. But you shall finde every where scattered in the Book of his Epistles, what force it hath against *Melancholy*, *Cacheria*, *Dropsies*, *Epilepsies*, and Feavers, where also you have the *Oxymels* made with *Hellebore*, the great and the small.

See Eudymus
his Nectar in
Wickerus his
special Anti-
dote. fol. 191.
& 195.

4. *Apomeli* of *Philagrius* in *Agineta*. Take white combs full of honey 1 pound, fountain-water 3 pound and half; break the combs and press out the honey, boyl this water and honey together, untill the froth of it, and that which as it were the waxy part swim a top, and be by degrees taken off, when it is cool put it into a vessel. It cools lightly, as *Galen* saith, wherefore in Phlegmone, and weariness in a Fever, it is very good. *Avicenna* his Syrup of Honey, seems to be the same with this. In *Nicolaus* you shall finde three kinds of *Apomeli*, and in *Actius*, *Oribasis*, *Actuarius* yet more; for they are changed according to the nature of the disease and the sick patient, that is the reason that we had rather only touch upon them, then to describe them at large. It is drunk all the summer to cool the body, at which time any man may drink of it, (especially when it growes fowrish) it is held to be of a middle nature between a *Mulsam* and an *Oxymel*. *Galen*. It is also useful to expectorate with, to move urine, to purge the belly, and to cut thick humours. *Agineta*, *Ruelius*.

5. *Omphacomeli*, (which *Grapoldus* did not well translate Bitter honey) it is made of the juice of unripe grapes, 3 sextarii, and 1 sextarius of honey, boyled together, or set a sunning for 40 daies: when it hath done working, put it in a vessel and stop it close, and keep it for your use. The same way almost is *Melomeli* of Quinces made, *Rhodomeli* of roses, honey of Myrtls, Rhodostacte, &c. you may finde their descriptions and use in *Actius*.

6. *Thalassiomeli*, is made of equal parts of sea-water, rain-water, and honey purified and set in the sun in a pitched vessel in the Dog-daies: some to two parts of sea-water add one part of honey, and so tun it up. They both purge, but this hath far the less. *Gorranus*. It is pleasant in taste and smell, it purgeth gently, without troubling the stomach at all. *Pliny*. And thus much of Honied drinks.

It would be too long for me, and tedious to the Reader, should I set down all kinde of Meats which the *Athenians* provided with honey, and other ingredients; therefore it shall not be needfull to rehearse them; and it may be it is impossible: for divers Nations did variously mingle honey with other things, as with milk, meat, flour, wheat, cheese, and with Sesama, whence are these meats made of honey called *χέρνα, ἀλευρα, κηρύλλοι, σπονμίδες, μέλιμυλα*. Juncates or honey-meats, and wafers, they have divers names as the thing is made. *Athenians*. They sacrificed to *Ceres* this bread of felicity, as the Scholiast upon *Nicander* sheweth, we call it honey-bread. Also the Scripture teacheth, that the nations offered wafers made with honey to the Sun and Moon, and to the Queen of heaven: wherefore *Moses* forbid the Israelites to offer honey in their offerings unto God, *Leviticus* the 2. But it may be that was rather forbid the Jewes because honey hath a power of fermenting. Also they made it with suet, fresh cheese, oyl and raisins; also to cause sleep, the Ancients made a kinde of meat of honey and poppy-seed, very pleasant, which they called *Cocetum*, as *Festus* reports. Also *Ambrosia* which was held to be the meat of the gods, had that exceeding sweetness, whereby it was thought to be so healthful, from honey, to make men immortal; of which *Athenians* and *Bellonius* write at large. But the *Indians* have the best and the most wholesome juncates, who were held to be *Barbarians*, but the truth is, they may for their wit be compared with any in *Europe*, and for what I can see, to be preferred before them.

But before honey be used it must be clarified: which is thus performed: Take honey and fountain water distilled of each 2 pound, or as much as you please, boyl them and skim off all that swims a top, till all the water be consumed. Then clarify it with 12 whites of Eggs. *Abynzoar*. But if you make it hard, pure, and fast together, mingle half a pound of the best wine to one pound of honey thus clarified, boyl them, skimming them till they grow hard, put it in a vial, and set it in boyling water, and it will grow clear, and stony like sugar-candy. If honey be but mean, it will grow better by boyling: whether honey be sophisticate or pure, you shall know by burning it; for what is not sophisticate will burn purely. *The Author of the Geoponicon*. But if you would separate the quintessence of honey, oyl, salt, water, vinegar, see *Isaac Belga*, the treasure of *Euonymus* and other Chymists, we will not venture into this ocean, being already plunged in the harbour. Now I shall shew you its first inventers.

Saturn was the first inventor of honey as *Macrobius* and they of *Cyrene* boast. *Calius* and *Pliny* say that *Aristeus* first invented honey-works. But *Diodorus Siculus* writes, that the *Cretes* of *Crete* first found out the use and way of honey. Some ascribe this to the *Thessalians*. Others to *Melissus* the most ancient King of the *Greeks*. Some to *Bacchus*, as *Ovid* testifieth. The *Greeks* feign, that a Nymph called *Melissa* first found out honey, and the use of it, and thence she had her Name given her from Bees. Who found it, or when, it is not much matter. It is a heavenly gift, and very profitable for men, if they use it well and warily.

CHAP. I.

CHAP. VI.

Concerning Wax, Bee-glew, dregs of Wax, Pissoceros, Bees-bread, and of their Nature and Use.

WAX in Hebrew, *Donagh*; in Arabick, *Mum*, *Examacha*, *Zamaches*, *Aberan*; in Greek, *κηρίον*, *κηρός* and *κεράδος*; in High Dutch, *Wachs*; in English, *Wax*; in Brabant, *Wafs*; in French, *Cire*; in Italian, *Cera*; in Spanish, *Cicrai*; it is either natural or artificial. Simple and natural Wax is the thicker part of the combs that contains the honey; and it is either virgins wax, or of a second sort; virgins wax is that the younger swarms of Bees make from the young branches of flowers. (That is the first Swarm put into a new Hive.) For so, as *Aristotle* and *Hollerius* testifie, the Bee-masters call it, which they diligently separate from the first and new combs, as being by nature the most perfect of all: the second sort, though they reject not, yet is it short of the other for esteem and worth. The way they make wax, is this: They creep upon the flowers first with their fore-feet, and they touch them but lightly, then they wipe and rub themselves in the middle of them; then they nimbly and artificially lay down the tincture of the flowers which they have wrought with their water or moisture, and compacted between the legs of their hinder feet, and having gathered as much in quantity, and in form like a lentil, when they have this burden they carry it home to their houses. That matter is of divers colours for the nature of the flowers, as yellow, red, pale, saffron coloured, white, black: which is the cause that the wax is of so many colours: they make wax, saith *Pliny*, of all flowers and plants, except sorrel and arrach. Artificial wax, is that to which our labour and art must be used. Divers Authors use divers waies to make wax. *Palladius* in the month of *July*, takes out the natural wax which he first prepares softly in a bras vessel full of boyling water, cutting the combs small, and after that in other vessels he makes it up into forms, being melted. *Pliny* takes another way. The wax is made when the honey is pressed forth, but first they are cleansed with water, (that no reliques of honey remain) and he dries them three daies in the dark or in the shade. The fourth day he melts them at the fire in a new earthen pot, the water covering them, and then he strains them through a basket; again the wax is boyled in the same pot and in the same water, and other cold water is put to it, so often as you see the vessels smeared about with honey. *Columella* goes this way. After that the remainders of the combs are diligently washed with clear water, the honey having been first well strained out, they are cast into a brasle pan, then he put water to them, and melted them at the fire, then he powred the wax through straw or rushes to strain it, and then he boyled it again as he did before, and then putting water to it, he made it of what form he pleased, and when it grew hard it was easie to take it forth, because the wax hath water under it that will not let the wax stick to the forms. Now wax differs two waies, for goodness and for use. The best wax is collected by the principal Bees, and is so wrought by the best artists, that it may appear white, tender, handsome, all like it self, pure, somewhat fat, well sented, without nerves or skins, hairs or any superfluous matter. Such as *Nonius Marcellus* describes out of *Varro* for *Tarentine* wax made by the Bees or *Miletus*. Wax is so much the more depraved, the farther it is from these good signs. The use of wax is twofold, for physick, or for other matters what concerns physick: wax is a mean between hot and moist, cold and dry, and emollient. It hath some gross parts, and that stopt, it not only dries, but seems by accident to moisten by hindring transpiration. Hence it is the matter of other medicaments. But by it self it digests lightly, being laid outwardly, for it hath a little discussing hot faculty, of which it partakes as much as honey doth. In drink it cures the dysentery, ten grains of wax swallowed so big as millet seeds, will not suffer milk to clodder in Nurses breasts. *Dioscorid.* *Aetius* bids to give it in the bigness of three Tares. A certain *Anonymus*, prescribes this remedy against pains of the head and malignant humours arising from a Feaver or any other cause. Take virgins wax what you please, soften it at the fire that you may work it at your pleasure: lay it as a cap on the shorn head of the patient, and upon that put on a linnen cap that it fall not off. After three daies lay it off, or use it so long till you finde the pain gone. Put wax into the hollow tooth that akes, and with a hot probe touch it. *Archigenes*. Wax applied to the nerves and tendons being bare, will cover them with flesh and cure them. *Aetius*. For the cold pain of the joynts. Take a clout dipt in melted wax, lay it handsomely and as closey on as the sick can endure it for one night, and it will cure it. *Galenus*. More-over it is good to anoint the ears with Bears grease, and Buls tallow, and melted wax. *Marcellus*. You may discuss corns in the eyelids with a fomentation of white wax. *Gal. ex Archigen.* No man that is not an enemy of truth, will deny but that oyl of wax is of principal use to cure pains of the Gout, to soften hard swellings, and to heal wounds and ulcers. Also it is mingled as *Galen* witnesseth to the medicament of *Asclepias* against an *Ozena*, and it is a certain cure for the Jaundies. A certain Lady of most blessed memory, wonderfully recommended these pills to *Gesner*: Take the yolk of an egge boyled hard, and as much wax, with some grains of saffron and syrup of wormwood. Make pills to take morning and evening. They cause thirst exceedingly, but being continued by degrees without drink, they root out the disease. Also a ball is made of wax to keep up the womb

womb subject to fall down; and medicaments made up with it will last the longer. *Clodius* the follower of *Asclepias*. The *Greeks* were wont to give the Cyrenian juice wrapt up in wax, to swallow it the better. *Celins Aurel*. It is also the ground of all Cerats and Plaisters. *Myrepsus* was the first that made a plaister without wax. It not only preserves the living, but it keeps the dead also from putrefaction, for which cause, as now it is used by us, to wrap up persons of great fortunes in wax, (as *Strabo* reports the *Persians* were wont to do.) By a waxen probe hollow ulcers are best to be searched. The *Carthaginian* wax is the best for medicaments, the next is the *Pontick*, which is very yellow, and smells like honey, being very pure. *Pliny*. Which thing I wonder at amongst honey that is venomous: the third in esteem is from *Creta*, which is from abundance of Bee-glew: the last is the *Corfick* wax, because it is collected from box, it is thought to have a physical quality.

Now follows the use of Wax otherwise. They that are rich, or sick, or great men, desire their candles to be made of it, by reason of the sweet smell. Also the use of wax is not small in stopping the chinks in vessels, for tents in the camp to keep out rain, for bed-ticks that the feathers fly not out, to joyn pipes made of reeds, as *Ovid* sang concerning the shepherds of old.

And with the Reed well waxed they play'd and sang.

Also the most excellent Painters painted with wax, as *Pliny* reports, and they adorned ships with it. This kinde of painting, though it were not hurt by salt, nor by the sun, nor by the wind, yet it was lost we know not how, when *Apelles*, *Protogenes*, and *Zeuxis* died. Also the Ancients were wont to smear over their writing tables with wax before that paper was invented, as *Juvenal* describes it. And the younger *Pliny* in his Epistle to *Trajan*; I fate by the nets, there was no hunting pole or lance by me, but a style and writing tables, I did meditate and set down some things, that though I should have my hands empty, my writing tables might be full. Hence proceeded those old forms of speaking, In the first, second, third, or last wax. For *Suetonius* proves that the *Romans* writ their Testaments in wax; in the life of *Cesar* in these words. He made *Q. Pedius* his heir to the last farthing, the rest he placed in the bottom of the wax, that is, in the last part of his will. Nor is the use of sealing wax little, whereby we seal letters and instruments. Of this there are four principal kindes, the *Punick* or white, the red or *Indian*, the black or *American*, the yellow or *European*. The *Punick* is made thus. The yellow wax is often laid in the open air, then they boyl it in sea-water, adding Nitre to it: then with skimmers they take off the flower of the wax, and they powr it into a vessel that hath a little cold water in it; then they boyl it apart in sea-water, then they cool the vessel. This is done thrice, and they then dry it on a bul-rush hurdle by day and by night in the open air, for this makes it white, the honey being drawn forth by the Sun, and the yellow colour breathed forth: when it is dryed they melt it, when it is melted they cover it with a thin cloth, and set it in the sun, after it hath stood in the sun it becomes exceeding white, being boyled once more. Wax is made white otherwise, but this is the most proper for medicaments. *Pliny*. I see that the *Greeks* speak of is no other than which *Pliny* calls the *Punick* wax. *Aetius* speaks of white wax in the *Unguent Martiatum*, and *Paulus* speaks of it also. Black wax is either natural, as in the *Molucco* Islands, and many parts of *America*, it is gathered by the Bees themselves (as we read in *Thevet* and in the Centuries of Navigations) or artificial, adding the ashes of paper. Red wax or like *Minium* of *India*, is made with mingling *Anchusa* or *Cinnaber*. There is another kinde of red wax, hard like a stone, but easie to break, the Merchants think their letters sealed with this to be very sure: yet there are some knaves so cunning that they will open them and shut them again not hurting them, that no man can possibly discern it; which art, though a chief Impostor shewed to *Pennius* when he was at *Paris*, yet he was too honest to reveal it to this mischievous age. The *European* honey is of the natural colour, that is, yellow. But the colour and variety of things hath so bewitched us, that we are not content with natural colours, but we must imitate the *Punick*, *Indian*, *American* waxes, and above those we must have green, dark light, blew wax, made of Verdigrease and other paints, and some Turpentine.

Propolis the *Arabians* call *Kur*, the *Greeks* call it *σύνιον*, *σύνιον*, *σύνιον*, *σύνιον*, the *German*s, *Vorstotz*, *neben Wachs*, *Wachs winden*, *stop Wachs*; the *Helvetians*, (if I mistake not) *Ber*, and *Binnen trost*; the *English*, *Hive-dross*; the *Spaniards*, *El vetun de las colmenas*. *Scribanus* takes it for *Virgins* wax: *Sylvaticus* falsly takes it for the dregs of the Hives: *Andreas Bellunensis* calls it the foulness of the walls, and sayes, that some abuse it for *Bdellium*. Some maintain that *Propolis* drops from trees, others say it is the first comb. It is indeed a thicker yellowish matter, sweet sented, like to *Storax*, and dustie like *Mastick*, like to wax, but not yet made wax, whereby all passages are stopt against cold and rain. The third sort is that black matter, and sharp sented, which *Aristotle* calls *Mityr*, *Gaza* and *Pliny* call *Commofis*, the dregs of wax: the second is called *Pissoceros*, as you would say, a matter made of pitch and wax. The third *Propolis* is of a middle nature between these two supporters and wax, laid very thick at the mouthes of the Hives, chiefly in summer; and therefore it is called *Propolis*, as you would say belonging to the suburbs. Because the Bees build with it at the doors before the Hive. *Propolis* (saith *Cordus* out of *Pliny*) perhaps is some rosin gum, growing upon the budding places of trees, which Bees gather and hang about the entrances of their Hives, to stop all chinks in winter against the cold. There are four sorts of it. The first is collected only out of the black Poppy, which they call *Aegyrina*, that is, yellow; it

is soft to be touched, and sticks like bird-lime, it smells sweet and comfortable to the head, causeth rest, and is like Storax, it tastes like Poplar buds. The second is gathered from the Birch-tree, and is of a colour between a yellow, ash, and green, it is soft and ductile also in handling. The third the Bees make out of the gum of the Poplar tree, called Alpina, but it is but seldom, and only in those places, where no other Poplar tree or Birch abounds, but only that is called Alpina. The fourth or mingled, is gathered and confounded from all these trees, so that it hath a mixt colour, sent, savour, and consistence. *Cordus* saith almost so much; now let us hear *Pliny*. Propolis is a kinde of middle substance between honey and wax; rather between wax and Pissoceros; and it seems to be gum collected by the Bees to stop up their hives. *Rondoleius* saith, it hath a thick substance, and the smell of leaven. *Pliny* saith, it smells so strong that some use it for Galbanum. But in the spring gathering time of honey, this part that shuts their cells may be separated, of which *Politianus* writes thus: That the Bee laies a white foundation of his various coloured wax. So that Propolis seems to be a thick foundation for the wax. But it is now out of use, nor can any man finde pure Propolis. For most Bee-masters taking out the Hives, when all the honey is run forth, whatsoever is in the combs they mingle together, and keep none pure by itself; nor is that wax which *Avicen* calls black Mum, any thing but the dregs of the combs, or else some sediment that sinks to the bottom of the water after the wax is boyled, and this is now Propolis; but Propolis is not pure, but some mingled matter. The nature of Propolis, is to dissolve in oyl as wax, but it is more ponderous and thick, and sinks to the bottome of it being melted, when wax swims on the top. Choose the sweetest, purest, not sophisticate with wax, which you may easily part by powring it into water. The best Propolis is said to be pure, most fragrant, without wax. That of *Crete* and *Passidinn* is the most effectual, the Bees collect the greatest part of it from the unctuousity of Storax and Labdanum; they collect it questionless out of other plants: for they make Propolis where neither the Poplar tree, nor Birch, nor any of the foresaid plants grow. Great is the vertue of pure Propolis, upon the gross spirits, and it draws faulty matter out from the depth. *Hollerius*. It is of the nature of wax, but it powerfully drawes forth. *Dioscorid.* *Celsus* placeth it in the number of biting remedies, saying that it digests and moves matter in ulcers. *Aetius* sayes that it heats, discusses, ripens, cleanses, attracts. The cleansing force is not very strong, the attracting is strong enough, it is of thin parts, it heats in the second degree complete, or in the beginning of the third: you must first soften it with your hands before you mingle it with other medicaments, and then taking the rest from the fire, put it in and boyl it, for it will not well endure any boyling at the fire. It drawes out thorns and all splints that are within. *Aetius*. *Varro* saith, that for its manifold uses it was sold dearer in the market than honey. May be therefore Propolis was called holy wax, because of *via sacra* where they sold it at *Rome*, as *Largus* writes in the cures of hard swellings. They draw forth thorns and such bodies sticking in the flesh, with runnet, (especially of a Hare) powder of Frankincense, and Propolis. *Pliny*. It helps an old cough with its smell. It cures the rose with water, and roots out ringworms by anointing them. *Dioscorid.* It cures *Ozenas*: *Serapio*. *Pliny* l. 11. c. 7. tells of more of its Physicall uses.

Aristotle calls *Eritbaca Sandarachas*, others call it *Cerinthum*, and *Smerion*, l. 2. *Aristot. de Plant.* The learned call it *Vernilago*; some from the time of the year, *Vernix*; this Grew, saith *Niphus*, the countrey Lombards call *Carbina*, but ours *Taram*. It is the meat the Bees make, which they lay in the void spaces of their combs; it tastes bitter, it is made of spring dew, the juice of trees, and sometimes of gum. That of *Africa* smells little; that from the South parts is blacker; from the North is better and redder; there is much from the *Grecian* Nut-trees. *Menecrates* saith it is a flower, that shewes the future harvest. *Plin.* *Varro* saith, it is not meat, but glew, whereby the Bees fasten their combs at the ends together. It forcibly calls forth the swarms: where they would have the swarms light, they anoint a bough with *Erithaw*, or any other place, adding balm. *Virgil*, I think, following *Varro*, calls it glew. *Mytis commosis*, (*Stephanus* calls it *κόρυς*) and *Pissoceros*, cures strokes and ulcers. *Aristotle*. What use it hath in the hives, we said enough before.

The Use.

CHAP. VII.

Of Drones and Theeves.

THE Drone called in Latine, *Fucus*, is called in Greek, *κρόν* and *δρόνα*, in the Illyrian tongue, *Czaro*; in English, a Drone, a Dran; in High Dutch, *Traen*; Low Dutch, *Belonder* *straet*; in Spanish, *Zangano*; in Italian, *Ape che non fa mele*; In French, *Bourdon*, and *Fullon*; in the Hungarian tongue, *Here*; in the Polonian, *Czezem*. The word *Fucus*, a Drone, is derived as some think from *fur*, which signifies a thief, because privily and by stealth he makes prey upon the honey: although with more probability the word *fucus* may be so used, because he doth cheat and couzen the Bees, and under colour of keeping the Hives warm, (which is his office to do) he ransacks the combs. And for that reason, some with too much confidence, perhaps, derive the Latine word *fucus* from the Greek word *φρῆναι*, signifying to eat or devour; others will have it come *à fovendo*, in regard of their sitting upon, and nursing up the young swarm.

The description
of the
Drone.

Μεγίστη δὲ
μύσος πόν-
των, ἀκάντης
δὲ καὶ ῥόβρος.
Arist. l. 5. c. 22.

Some make the Drone to be a fourth sort of Bees, but not so well as others think, because he neither gathers honey himself, nor doth any way help in the working or making of it up. He is almost twice as big as the ordinary Bee, and somewhat bigger also than the Thief; he is as big likewise as the King, and somewhat bigger. Although they do not arrive at this corpulency, by the dispensation of nature, but by their course of life that they take. For when the Bee doth set apart cells for the Drones to breed in, they make them lesser than their own. And the little Scaffolds or worms whereof they come are far lesse than those of the Bees (who are sprung of the noble race, and of the stock of the Bees) in their first birth; which at length become a great deal bigger than the Bees, both by reason they never take any pains whereby to spend their natural superfluities; and also in regard that they do nothing night and day but (like oxen at the stall) never leave glutting and gorging themselves with honey, which afterwards they dearly pay for, when provision happens to be short, and there falls out a dearth. They have a bright shining colour, but mixt with more black than that of the Bees, in bulk they exceed them all, but yet without sting and idle. They both breed and live amongst the Bees, and when they go abroad, they presently spread all abroad aloft in the air, as if driven by violence, where for a while they besur themselves, and afterwards return to the Hives with good stomachs, falling greedily to the honey. But why the Drone should equalize the chief Bees in bigness, and the Bees also in having stings as well as they; let us hear *Aristotle* reason. *Nature did desire*, saith he, *to put a difference between them, that they should not be all of one kinde, which is impossible; for so the whole Stock would be either Kings or Drones. The Bees therefore are like unto the Kings or Master-Bees in strength, and in the faculty of generation; and the Drones only in bulk or bignesse of body, to whom if you should give a sting also, they would be nothing inferiour to the Kings themselves*, l. 3. de gen. Animal. c. 10.

They are called also of the Greeks *ρόβρος*, because they hide their stings. From hence *Hesiod* hath these words, *ὄξος ἀπὸ τοῦ ῥόβρου καὶ τῆς ἀκάντης*, who lives idly, having strength like the Drone that never sheweth his sting; certainly either they have no sting, or never use it to revenge themselves withall. *Pliny* saith plainly they have none, and terms them no other then in a manner imperfect Bees, and therefore *Virgil* calleth them *ignavum pecus*, a sluggish kinde of creature.

Suidas calls them *ρόβρος*, πρὸς τὸ καλεῖν τὸν ἐαυτὸν ῥόβρον, from hiding their sting. *Columella*, a sort of creatures of a greater growth, very like the Bees, and accordingly he placeth them in the rank of herding or swarming creatures. They suffer egregiously of the whole swarm many times, not only for their sloth and rapacity; but for that wanting a sting they seem effeminate, and not able to make any opposition. *Plin. l. 11. c. 17.* describeth them thus: *The Drone is an imperfect Bee without a sting; and begotten then after all when the Bee is decayed with labour, not being able to labour any longer.* Like as men past their labour, and stricken in age, beget of women when they have well-nigh left teeming through age and weakness, feeble children, incapable of procreation, little better then eunuchs: so it may not seem strange, how these Drones are too weak and impotent, being begotten of the Bees when they are exhausted with age and labour, inasmuch that they are fit neither to propagate their one species, nor to take pains as the other do. Which is the reason why the Bees so lord it over them, for they put them first forth to work, & if they loyter, they punish them without mercy. For in the moneth of *June*, two or three (especially the younger fry) drag out one Drone by himself alone, buffet him with their wings, gore him with their stings, if he resist them, they cast him down from the form upon the ground, and at length when they have made him weary of his life for anguish, they make an end of him and kill him; this I beheld with mine eyes, not without exceeding admiration and delight. Sometimes the Drones being banisht from the Hive, are fain to remain without doors, not daring to enter. Now for three reasons especially thereunto moving, the Bees do shut out the Drones: either when their number is above measure increased; or when there is not room enough left for the Bees to work in, or else when their honey fails, and they are straightned for want of provision.

And as they bear a deadly hatred against the Drones, so neither will they hurt any man if with his naked hands he shall take the Drones and cast them forth, no although they be in fight.

Κεντροῦ δὲ
μυ. Arist. l.
9. hist. c. 40.

The Drones, if the King be alive, (as some affirm) are begotten in a place by themselves. But if the King be dead, they are begotten of the Bees in their cells, and those are a great deal lustier than the other, in which regard, they are said to have a sting in their souls, although they are allowed none in their bodies by nature. Thus *Ælian. lib. 1. de Animal. Hist. c. 10.* The Drone which is bred amongst the Bees, lies hid all day between the honey cells; but in the night when he observes that the Bees are gone to their rest and are fast asleep, he sets upon their works and preys upon their Hives. This as soon as they understand (for that most of the Bees being weary with labour fall asleep, and some few watch) when they espy the thief, they moderately and gently chastise him, crop his wings, thrust him out from thence and banish him. But not content with this punishment, whereby to amend his fault, being naturally posselt with two ill qualities, idleness and luxury, he hides himself amongst the combs. But as soon as the Bees are gone forth to pasture, presently he falls upon the works, doth as much as in him lies, gluts himself with honey, and utterly ranfacks the sweet treasury of the Bees. They coming home again from feeding, as soon as they meet with him, no more favour him as before, with easie stripes, or as if they were about only to banish him again, but setting upon him with their stings they wound the felon,

felon, and no more satisfie themselves with chiding of him, but then he payes for his voracity and gluttony with no lesse than his life. This the Bee-masters say and perswade me that it is true.

Drones come forth without a King, the Bees never. For they alwaies descend from Kings. There are that affirm, that the young Drones are brought thither from other places from the flowers of honey-suckles, or of the olive or reed: But this opinion is infirm, and doth not stand with reason. *Aristotle* affirms that the great store both of Drones and Theeves are sprung of the longer and slender kinde of Bees, which doubtlesse he was informed of by the ancient Philosophers, or by Bee-keepers, and Honey-masters of his time. Some likewise say they are ingendred of putrefaction; as of Mules, so *Isidore*; of Asses, so *Cardane*; of Horses, so *Plutarch* and *Servius*. Others will have them to be the issue of Bees by a certain degeneration, when they have lost their stings, for then they become Drones, nor are observed to gather any honey, and being as it were gell of their natural strength, they neither do harm or good. Others on the contrary say, that the Bees are bred of the Drones, because long experience hath taught, that as the number of Drones aboundeth, by so much every year is the number of the Swarms greater. But that in my apprehension is rather a feigned than a solid reason: for therefore are there not (as some seasonable years it comes to passe) more Swarms of Bees, because more Drones are bred; but rather on the contrary, because the increase of Bees is more in regard of the clemency of the heavens, and the plenty of mellifluous dewes, so from the abundance of superfluous moisture proceed the greater store of Drones; as the Philosopher hath well collected. Or if we grant them this, that the more the Drones are every year, so the more Bees; yet notwithstanding we ought not to conclude from thence, that the Bees should derive their original of being to the Drones, but rather are beholding and indebted to them for their conservation, whilst they at the time of sitting and incubation, by their company do much further the procreation of the Bees; the throng of them (to use the words of *Pliny*) exceedingly encreasing the vegetative heat, by which they are sooner hatched up.

Their Generation

There are that divide the Drones into Male and Female, and will have them to propagate their species by way of copulation, although (as *Athenaus* writes) neither Drone nor Bee were ever seen to couple together. Yet forasmuch as Wasps and Bumble Bees, and all other Hive-born Insects, are seen sometime (though very seldome) to couple: I see no reason why the modesty of the Bee and of the Drone, whereby they abandon publick scortation and venery, should debar them of the private use of copulation. For they, as the chaster sort of men are wont, do it privately, and do naturally detest the impudence of those that publickly prostitute themselves in the day time, and when all eyes are upon them.

We have told you before in the generation of Bees, that some would make the Bees the male, and the Drones the female.

But when as (about the time of making their honey) they do so sharply punish them after they have cast them out of their Hives, and kill them (such violence which if used to their mothers, would much blemish the virtues of the Bees) I scarce think they are females.

Of what use then are they of in the Hives? is the Drone altogether unprofitable, good for nothing, idle, without sting, fit for no service, no way helpful to the publick? More than that, *Vergil* himself chants it to that effect:

Immunisq; sedens aliena ad pabula fucus.

The Drone sits free feeding on others food.

Where *Festus* takes the word in that sense for a slothful, idle, unprofitable creature, void of all employment, unlesse it be that of theeves and robbers, who take such a course that either they will live by the sweat of other mens browes, or else they will disturb the whole Kingdom. Such like *Hesiod* makes women to be, when he compares them to Drones.

*Οἷδ' ἐξῆδε μένοντες ἐμπροστίας καὶ σμῆλιν
Ἀλλότριον ἔμαλλον σφέτερον εἰς γαστέρ' ἀμύντας.*

Which is, I interpret it in Latine thus:

*Qui segnes resident contectis edibus, atq;
Sudorem alterius proprium: furantur in alvum.*

Or, in English thus:

Who sit at home, and to work have no will,
With others sweat they do their bellies fill.

But more creditable Authors propound divers uses of Drones: for if there be but a few of them amongst the Bees, they make them more diligent and careful in their businesse, not by their example, (for they live perpetually idle) but because they take the more pains in making honey, that they may be able to continue their liberality to strangers. They discover also signs whereby to know when the honey is come to maturity: for when they have perfected their honey,

*Ἀστυλῆς,
ἀλλήλῃς, ἀεργῇ
ἀκαλίῃς, ἀλοι-
τέρησις, ἀ-
σμβόλος, μη-
δὲν εἰς τὴν κοι-
νὴν συμφέρων,
as the Greeks
very many of
them have
written.*

1. de Animal.
1. c. 10.

* *Aregolot.*

Chil. 8. Hist.
217.

Plat. 1. 8. de
Repub.

ney, then they kill them in abundance, lest they should (as their custome is) rob them of it in the night; for as *Ælian* saith, the Drone all the day lies quietly in the honey cells, but in the night when he perceives that the Bees are in their dead sleep, he sets upon their works and destroys their combs.

But yet (if *Bartholomæus* deceive us not) they are not unbusied neither; but they build houses for the Kings, large and magnificent in the top and middle part of the Hive very finely covered over. They are therefore idle (to say say with *Aristotle*) in regard of making honey or gathering dew; but in regard of their Architecture so they are workmen. For as the Bees make the combs of the Drones hard by the Kings Court, so under the same consideration the Drones build the Kings houses, which is the reason why they and their young ones (if they have any) are sustained by the Bees. The cells of the Drones now grown up according to the bulk of their bodies are larger, but their combs lesse, for the Bees built these, but those the made themselves; because it is not fitting that the same proportion of food should be allowed to hindes and hired servants, as to the children or masters of the family.

Tzetzes in his elegant Poem, and other of the Greek Poets, make them to be the Bees cellar-men, or water-bearers, and do assign unto them a most kindly heat whereby they are said to hatch the young Bees and make them thrive. In like manner *Columella*: the Drones do very much help to breed the young Bees, by sitting upon those seeds out of which they are made. And therefore they are more familiarly admitted to the nursery to bring up and cherish the young brood, which when they have done, afterwards they are thrust out of doors. And *Pliny* also in his 11. Book. They do not assist the Bees in their Architecture only, but also in cherishing their young, the multitude of them causing heat and warmth, the which the greater it is (unlesse the honey chance to fail in the mean time) the more the swarmes of Bees are increased. To conclude, unlesse they had been for some great use for the Bees, Almighty God had never housed them under one roof, nor made them, as it were, free Denisons of the same City. Neither would the Bees lay hands on them at all as enemies of the State, but when their servile multitude doth increase and they take up offensive arms, or scarcity of provision were to be suddenly expected: in which tempest of affairs who would not rather judge that the Carpenter should be dismissed than the Ploughman? especially when without him by reason of want of victuals, we may hazard our lives, but the other we may be without for a time, without prejudice to our lives, and our selves (if need requires) are able to build habitations every one for himself. Now as these, being but a competent number of them, are very profitable to the Bees, so if they be over many, *Plato* not without cause terms them *morbum alvearium*, the Pest or Plague of the Hive, in the 8. book of the Common-wealth (where you may see a most elegant comparison between *Acolastus* and the Drone) both because they waste the provision of the labouring Bees, as also with their too much heat stifle them. This inconvenience the Author of the *Geoponicks* doth thus remedy; take the covers of the Hives and sprinkle them on the inside over night with water, and you shall finde them betimes in the morning when you take off the cover of the Hives again all over covered with the Drones; for when their bellies are full of honey, they are very thirsty, and are mightily perplext with an intolerable desire of water; so that they cling fast to the lid of the Hive; and it is an easie matter to put them all to death, or if you will rather to take away the greatest part of them. But if you take away the young ones and all, that are not yet come to have wings, and pluck off their heads, casting the bodies in again to the other Bees, you shall offer to them a very dainty dish.

Moreover also if you shall take the Drone and crop off his wings and cast it back into the Hive, he will if we may credit *Pliny*, pull off all the wings of the rest, *lib. 21. c. 11.* or rather the Bees themselves will devour the wings of the rest of the Drones that are left. For so saith *Aristot.* καὶ κηρὶνος τὸ πλεον ἀποκρίσας ἀφ' ἧς, καὶ λοιπὸν αὐταὶ τὰ πλεον ἀποκρίσσι. For it is not probable that either the Bees should crop one the others wings; or that the Drones should so far adventure, or be able to offer such violence to the Bees: so that as *Pliny* was mistaken in reading *εἶπε* for *αὐταὶ*, so also they do not a little speak by guesse, who refer the words *καὶ λοιπὸν*, the rest, to the Bees and not to the Drones.

But what the dreaming of Drones doth portend, what use they may be of in the way of Hieroglyphicks: let *Apomasaris* out of the Schools of the *Persians* and *Egyptians* declare. It shall abundantly satisfy for what we intended to speak of them, to shew their true use, true nature, generation, degeneration, description and name. But as for what belongs to Emblemes and Hieroglyphicks, and precepts for Manners; every mean capacity may furnish himself with a world of such like rules by observing their course of life; without any need of consulting with those abstruse *Egyptian* Priests.

Arst 1. 9. c. 25.
Plin 1. 11. c. 17.
Aristotle calls
for *οὐρ*, *Hes-*
chius *οὐρ*,
and from
thence I think
the Latine
name was de-
rived.

The Theeves are thought to be amongst the Bees of a kinde by themselves that are very big, and black, bigger in belly than the profitable Bee, and lesser than the Drone. So called because they devour the honey by stealth. Bees admit of the Drone into their company, and are glad of it as being helpful to them, for their benefit sometimes. But the Theeves being naturally odious to the Bees, steal upon their labours when they are absent, wasting and spoiling their provision of honey. Yea they do so glut themselves in the mean while, that they are not able many times to get out again they are so full, or to stand in their own defence; whereupon the Bees at their return without any more ado, severely punish them, and according to their just demerits kill

kill them outright. Neither do they eat up the Bees food, but also privily lay their young in their cells, whereby it comes to passe oftentimes, that the increase of the Drones and Theeves is no lesse than that of the true legitimate Bees. Now these neither gather honey, nor build houses, nor take any pains, as the other Bees do, for which cause they have watchmen which observe at night when they come home, and they defend and secure them from the Theeves, and if they spie a Thief come in, they set upon him and beat him, throw him out of doors and there leave him for dead or half dead at least. For so it happens, that the thief having filled himself with honey is not able to fly away, but tumbles up and down at the door of the Hive, till they that go out and in finde him, and having branded him with ignominy and scorn, deprive him of his life.

Aristotle doth not tell us of any office that the Thief is good for: but I think that he was made for this end, namely, that he might put an edge to the courage of the Bees in point of injuries offered them, and that they might be stirred up to more vigilancy and justice: for what use else do Theeves serve for in a Christian Common-wealth, who with incredible fraud lie in wait for the credit and estates of their neighbours.

Their Use.

CHAP. VIII.

Of Wasps.

THE Wasp is called in Hebrew, *Tsirgna*; in Chaldee, *Deibrane*; in Syriack, *Gnargnitha*; in Arabick, *Zamber*; in English, a *Wasp*; in Dutch, *Harsell*; in Italian, *Vespa*, *Vrespa*, *Moscone*; in French, *Guespe*; in Spanish, *Vespa* and *Abilpa*; Gothish, *Boolgetingb*; in Slavonick, *Wols*; Illyrick, *Osa*; Hungarick, *Daras*; in Latine, *Vespa*.

They are called *Vespa*, as *Calepine* notes, for that in the evening they seek about for flies to feed on.

The Greeks also have several names for them; commonly they are called *σφήκες*, *Eustathius* derives *σφήκη* *ἐκ τῆς διασφάγης*, because you may perceive them so divided in the middle that they seem to gape, as you may observe in the figure set down. The Scholiast of *Nicander* calls them *λευκοσπιδες*; of *Suidas*, *σφιδες*, and *σφιδες*; *Hesychius* termes them *αυαυα* and *αυαυαδες*; *Gaza* (but abusively) *αυαυα*, for they ought to be called rather *Crabrones*.

Now the Wasp is a winged Insect, gregal or hearding round like a ring, long, having four wings (of which the two former are the bigger) having a sting within, six footed, they have no blood, they are of a yellow golden colour upon black spots placed triangularly, the whole body is garnished with divers colours athwart, whence it may be *Pollio* called it *δίαχρους*.

Description



I think they all in general are armed with stings, (what ever Authors write that their Females are without stings) because when I was at *Ham*, a village town in the West, about the year 1587. having found an entire Wasps nest, I poured hot water upon all the females and killed them, and yet could finde none that had not a sting, either within their bodies, or sticking out.

The body of the Wasp is bound in the middle to the breast with a certain exceeding thin thred, that they seem to have no loins at all, and to be quite through open: whereupon that Greek Comick Poet calls those *Maids*, (which *Terence* by way of elegance calls *Bulrushes*) for their slenderesse in the waste *σφινος*, waspy or like Wasps. They make a buzzing noise also like the Bee, but more loud and hoarse, especially when they are angry; upon which came that proverb made by *Theocritus* in *Hodeporis*, in comparison of a bawling idiot, to a man of learning and parts, *σφήξ βομβῶν τήντος ἀνάλιος*, i. e. *The buzzing Wasp against the Grasshopper*.

Aristoph. in *Vespis.*

If you will have the endowments of his minde described, he is a political and flocking or gregal creature, subject to Monarchy, laborious, a lover of his young, and a lover of his neighbour, of a very quarrellsome disposition, and very prone to choler. It is a sign that their life is Political, because they live not solitary, but do build themselves a city eminent for structure, in which they are subject to their set lawes, and do yeeld to them as wel in their external actions, as in affections. Whereupon he Philosopher doth rightly reckon them in the number of the Civil or Political sort of Insects. They are governed also by Kingly power, not tyranny (as *Ælian* faith) although by nature very fierce; making his Argument, because Captains of the Wasps want stings, or if they have any, they never put them forth or strike with them. And although they be twice as big and hard above all the rest, yet are they not without gentlenesse, and grateful demeanour, with which also sometimes they restrain, and appease their rebellious and mutinous subjects.

The gifts of his minde and

But of their mutual love one towards another, every man is able to give a testimony; who soever he be that shall offer injury to any one of them near home, for with his buzzing and making

Love to one another, *Αλληλοφιλία* making

making a noyse, all the swarm being terrified issue out to the succour of their neighbour; and will cause the troublesome stranger, although armed, to run away (as they did the *Phaselites* of old) of whom *Ælian* reports that by the multitude and fierceness of the Wasps they were quite beaten out of the City.

Love to their
young.

Σφηνέουσιν αἰό-
λοις καὶ δῖν
ἣ δῦμον ἔχοι-
τες. *Iliad.* 13.

As for unnaturalness toward their young, that it is a vice which is very far from their disposition and nature, as many things do evince, so that above all, that with more than Heronick undauntedness of courage, they set upon those that would surprize them; neither do they stand in fear of either *Neoptolemus*, or *Hector*, or *Achilles*, or *Agamemnon*, the General of all the Grecian Forces, yea that divine Poet *Homer* in the 13. of his *Iliads*, when he would expresse the generous spirits of the Grecian Commanders, he compares them to a speckled Wasp, and endowed with the Wasps animosity and stout heartedness, when they are put upon it to fight for their house and family. They do moreover erect for their children large structures, (and as it were like those *Manfolea* of the *Egyptians*) of a round form, floored, and standing one on the top of the other. One of these fabricks most curiously built, was brought to *Pierius* when he was at *Belunum* out of a certain solitary grove. There were seven stories of building set one on the top of the other two fingers space between each of them, disjoyned by the putting of certain columns or pillars between them, that there might be a convenient space left to passe in and out of their lodgings. The diameter of the orbs up to the fifth story about twelve fingers over, all the other from the fifth are narrowed up to the top by degrees, so that the last is about five or six fingers broad. The greater round contains the first room, fastned to the bough of an old tree, very well fenced above with a certain rough-cast to keep off all wind and weather. Within are six square cells standing very thick together; but the middle concamerations the multitude of Wasps had filled, a very thin leaf being laid over every hole for a covering, some of which when *Pierius* had taken away he observed all those chambers to be full of Wasps creeping with their heads to the bottome of them. Those in the rooms below were certain imperfect things like Embryons or little worms, which were covered over with the same covering, as it were a winter Oyster, in expectation of the more milde season of the spring. Which building although there succeeded a very sharp winter did remain entire, and no way decayed; at length *Pierius* expecting what should be done with these little worms when the Spring came, he perceived nature to make no further progresse in her work with them.

But still the fabrick was kept by him, not without the great admiration of those that saw it, wondering much to see so much art and cunning in those little creatures, and that they were able to hold out to finish such an elaborate edifice. This relates *Pierius*. I also have seen many such, but of a different fashion, some like a Harp, some like a Cup, some like a Pear, some like a Toadstool, some like a Bottle.

The matter of their Combs is said to be confused, heaped up together, like bark or cobwebs, transparent, gummy, and made into very thin plates like leaf-gold; but I found it alwaies light like paper, dry, easily puffed hither and thither by the wind, and for the most part growing up from the bottom like a Turban. As for the place where they use to build, it is thought to be divers. If their chieftain be dead, they make their nests aloft in the hollow places of trees or walls, and in these as some affirm (though I never could finde any) they make wax also. But if they have their master Wasp, they build underground in six square cells according to the number of their feet, and after the fashion of the Bees. Their combs are made in the form of a large Toadstool, round, out of which there comes out in the middle or center as it were a little foot by which the cell is fastened to the tree, or to the earth, or to another cell.

Love to their
wives or fe-
males.

But so tender are they over their mates or females, that they will neither suffer them to take any pains, nor to seek after any provision; but they themselves bring in all necessaries to them, and do as it were enjoyn them to keep at home.

Sironi, 2.

and do as it were enjoyn them to keep at home.
All which things, and each particular being considered by any man, he must needs confesse the pain, industry, cunning, sweat and labour of the Wasp. As for their choler and frowardnesse of the Wasp, not only poultreys that scrape in their nests and trouble them, but in like manner all that provoke them do know them to be implacable: from whence arose the proverb σφηκας ἐκ-
τιζεις, i. e. to contend with a Wasps nest. Of which sort something to that purpose was written on the Tomb of Hippocrates, μη πως ἐγχεις σφηκα τὸν κοιμώμενον, i. e. Do not rouse a sleeping Wasp. And so Aristophanes in *Vespis*, when he would expresse a cruel, morose, fretful, quarrellsome sort of people, calls them *Wasps*, διεσφηκόμενοι. Clem. Alexandrinus also, when he would set forth the acerbity and bitterness of those vices that lye in wait for the souls of men, saith, διστοί γὰρ ἀνταγωνισαὶ ταχῆς καὶ ἀλυμπνοὶ, καὶ μάστιγα ἡδονῆς, i. e. these, especially pleasure, are sturdy Olympick Antagonists, and more tart than Wasps. To which may be added a certain speech of Themistius discourting of the speeches of many malevolous adversaries, ἡγεῖσθαι (saith he) ἐν ἑαυτῷ ὡς εἰμὶν πᾶσι σφηκῶν κατασ-
μίνων: they railed upon me as it had been a swarm of stinging Wasps. Which oftentimes proves mor-
tall, as Phrynichus knew by experience from the Milesians, and the Phaselites were sufficiently in-
structed by their own great miseries: yea, whosoever he be that shall challenge this generous and
redoubted Champion into the field (to use Niscander's words) shall obtain but Cadmus conquest,
he shall surely be worsted and slain; for they do not fight so much with their stings as with the
strength of their bodies, and more than that, when they fight they will never give over, being not
only strong but resolute.

Notwithstanding they differ in their original, kinde, sex, age, place, diet, and labour.

Isidore affirms that Wasps come out of the putrefied carcases of Asles, although he may be mistaken, for all agree that the *Scarabees* are procreated from them: rather am I of opinion with *Pliny* l. 11. c. 20. and the Greek Authors, that they are sprung from the dead bodies of Horses, for a horse is a valiant and warlike creature; hence is that verse frequently and commonly used amongst the Greeks.

Their difference from others.

ἵπποι μὲν σφῆκες γένονται, ταύροι δὲ μέλισσαι.

Wasps come of Horses, Bees from Bulls are bred.

And indeed their more then ordinary swiftnesse and their eagernesse in fight, are sufficient arguments that they can take their original from no other creature (much lesse from an Asle, Hart, or Oxe) since that Nature never granted to any creatures else, to excell both in swiftnesse and valour. And surely that I may give another sense of that Proverb of *Aristotle*, Χαίρετε ἀνιπποδωτάδες ἱππων, Hail the daughters of the wing-footed steed: this would I suppose fit to be spoken in way of jest and scorn to scolding women, which do imitate the hastiness and froward disposition of the Wasp. Other sorts of them are produced out of the putrid corps of the Crocodiles, if *Horus* and the *Egyptians* be to be believed, for which reason when they see a Wasp, they set it forth by an Horse or Crocodile. *Nicander* gives them the name *λυκοσπίδες*, because they sometimes come from the dead carcases of Wolves. *Bellenacensis* & *Vincentius* say, that Wasps come out of the putrefaction of an old Deers head, flying sometimes out at the eyes, sometimes out of the nostrils: From

Lib. 2.

hence *Cardan* seems to have collected this observation, that out of the corruption of every creature, there is another sort produced; which would be very absurd; For by this means Generation would be infinite, and likewise daily experience doth teach the contrary. For that little beast which I term *Tatium Alberti*, doth naturally produce nothing at all, as I have tryed a thousand

Albertus l. 15. tract. 1.

times. There are those also that affirm that Wasps are begotten of the earth and rottenness of some kinde of fruits; as *Albertus* and the *Arabick* Scholiast: but for the most part they are begotten by copulation, and the mutual embraces of the male and female; which although *Arbennus* l. 8. dispof. esteems as fabulous, yet when as the Philosopher affirms that he saw it with his eyes (as l. 1. de gen. anim. c. 16. & 9. Hist. c. 41. it is evident) I am wholly of his opinion, and do give full suffrage to his assertion. But how after copulation, they grow and come to maturity, we may know of *Arist.* Hist. 9. c. 41. and *Pliny* his Interpreter. The master Wasps, when they have chosen them a convenient place under ground, in the chinks of walls, or (which I have often seen) in the thatch of houses; in the beginning of summer they make their nests, and they contrive their little nests or cells (which the Greeks call σφηκοίς) with 4 doors or passages, in which are begotten worms only, not Wasps, which when they are grown up, then they make larger cells, and when they come to have young ones, then they make more still, so that at the latter end of Autumn, you have many and large nests builded; in which the chieftain or master Wasp (which is called the Matrix) procreates no more Wasps, but those of his own sex; which also are begotten aloft in the uppermost part of the nest, in the likeness of worms, but far bigger than the other, in four or more cells continued, or joyned one to another, otherwise there would be no difference in their breeding, between the Master or nobler sort, and the ordinary Wasp. They let fall their sperm as the Bee doth at the sides of the cells of the comb, and shove them close to the walls or outmost part. It is not all alike in all cells, nor of equal bigness, but in some un-

L. 11. c. 21.

equall and strange (saith *Pliny*). In some so big that they are able to fly: in others only Nymphs, covered with a thin membrane like an *Aurelia*: some also have them yet in the worm. The Worms only have excretion in like manner as the Bees have. Their sperm or spawn doth not stir at all while it is in the Nymph, and is covered with a membrane. In the same time of the year, and the same very day you shall observe them to be of unequal growth, one flies abroad, another is only a Nymph; one is able to roole or tumble, another not able to stir, a third is a little worm. All these things happen in the Autumn, not in the Spring. They most increase at the time of the full Moon. Here then is to be noted, that the Wasps have no swarms, and that all the Summer they are governed by their Masters or male Wasps, but in the Winter by their females. Afterwards the multitude of their issue being renewed, the government such as it is, of short continuance and weak, however, upheld with most just lawes, returns to the males. But yet notwithstanding their young seems not to be brought forth by way of Birth, saith *Arist.* (because it presently becomes bigger than a Wasp should be able to bring forth.) A very sterile and empty conceit of so renowned a Philosopher. For what should hinder that Nature should not be able as quickly to perfect and increase that which is produced by a legitimate birth, as that which is generated of putrefaction? Let us but call to minde the young ones of fowles, which in a very short time when they are once out of the shell, do get feathers on their backs; how soon do they go, feed, grow, and come to maturity? and then we shall easily see the weakness and improbability of the Philosophers Argument. The Master Wasps are greatly increased in number, especially if there were great store of Wasps, and a wet year the year before. *Aristot.*

The Worms before they become Nymphs, i. e. young Wasps, are somewhat long, like those that breed in flesh (which *Hippocrates* calls *luxa*) and small nirs, whitish, full of dints or wreathes, toward the tail thicker, with a blackish streak all over the back, without feet, not creeping, but as it were tumbling up and down and moving themselves from one place to another. When they

they

they have layed their young fry, they cover the cell with a kinde of a little thin skin, as it were, which when they come to perfection they break, and two daies after fly about with wings. *Aristotle* mentions but two kinds of Wasps, one milde, the other fierce; the fierce kinde is very rare, and breed in mountains and woods, and breeds not under the ground, but in an oak, being greater, more stretched out, blacker, longer, having a stronger sting, and stingerth more fiercely than the milder do, and is armed with a greater sting than his body seems to be able to carry. *Aristotle* saith that they live till they be two years old, and when the tree is lopt, in the winter they are seen to fly away. They lye close all the winter, and most commonly live in old walls or trees.

A sort of these I found once in a wood in *Essex*, not without great peril of my life, at such time as by chance I carelessly wandered here and there a simpling, with my friend *Penny* and one servant attending us. I would needs be prying into their nest: with which they being offended, all the swarm flusht out upon us with all the force they had; and but (as God would have it) we had carried in our hands some sprigs of Broom, (with which we used to catch those Insects) for our safeguard and defence, we had payed for our folly, not only with the hazzard of safety but of our lives; for they followed us hard to the very middle of the wood, and a great while it was before they would leave pursuing us.

In the year 1582. on the top of *Chartmell* hills amongst the stones I saw two sorts of Wasps very eagerly fighting with one another, no difference there was but in bigness. The greater they stood upon their strength, the less trusted in their faction and multitude; for six of the lesser fought with one of the greater, not in the air, but in the grasse. From whence I gather that the greater did use to rob the less of their honey or young ones, or perchance offer them some other injury. Long and sharp was the fight, so that scarce after two or three whole hours encounter, and the Sun very vehemently shining and scorching them, did they give over. For they are very hot upon revenge, and long ere they take up the quarrel: so boldly and furiously charging the enemy, that even *Mars* himself were not able to answer them, or match their valour; such a strong undaunted nature hath God instilled into them, and such spiritlike courage hath Nature planted in them. I once received from *Vienna* and *Hungary* two kinds of Wasps, such as you see in the Figure, their backs were variously coloured with a shining yellow black colour, the one had rough horns, the other smooth; both of them almost three times as big as the ordinary sort of Wasps.

The Wasps called *Ichneumones*, are less then the rest: they kill Spiders called *Phalangia*, and after they have done they carry them into their nests, and dawb them over with dirt, and so sitting upon them do procreate their own species. *Aristot.* Therefore they are called *Ichneumones* saith *Niphus* from their spareness and slenderness.

This kinde of Wasp I make to be all one with that spoken of before, building her nest in mud-walls, and such like places; before the entry or going into her hole she builds a porch of dirt, the length of it about the breadth of two fingers, which within is emplastered over with smooth plaister of the same dirt. *Pseudospheca* seemeth also to be a kinde of Wasp having no sting,

with a blackish head, having two cornicles or little short horns, great eyes, black, standing out of its head, a long forked mouth, a bulky breast strutting out, to which on either side are three feet fastened, the shoulders thick and bunching out, the body long, slender, consisting of many joynts, two dusky coloured wings, rough feet, and of the same colour with the wings. There is a kinde of Wasp called *Laerta*, because it stings deadly, like the Pismire so called. *Parnopes*, are a kinde of Wasp so called, which eateth grapes, (as *Aristophanes* relates) and serves for a prey to the Owls and Screech-owls, as *Ælian* saith.

Of the Wasps as well wilde as tame, some have no sting, (or at least make use of none) others have; the lesser and more feeble are those that want, which neither are able to offend or defend. On the other side, they that have stings, are bigger, stronger, and able to fight. These, some would have to be the Males, the other that have no sting Females. Also very many of them that have stings are conceived to lose them upon the approach of winter. But this as yet hath not been my chance to see (saith the Philosopher). If you take a Wasp and hold him up and make him buz, those that have not stings do presently flock to him, which those that have do not; which is the argument whereby some are to prove, the one to be male, the other female. Of both sorts some are observed to couple together as the fly doth. Moreover, (according to their sex) both kinds of them are divided into two sorts, either they are master Wasps, or drudges and labouring Wasps; the one is greater and more gentle, the other less and more pettish. The drudge or labouring Wasp doth not live out a whole year,



ixrai.



Hist. 9. c. 41.

year, for in the midst of winter they all die; which is known, because so soon as winter comes they grow stupid, and in winter there are none to be seen: the others, that is to say, the Lady Wasps, are observed to hide themselves all the winter long underground. For divers men when they have gone to plow or dig in the winter, have seen them, though no man ever saw the other.

Now the Female Wasp is broader, weightier, thicker and bigger than the Male Wasp, and but slow of flight; for by reason of the weight of her body she is not able to fly far; by which it comes to pass that they for the most part sit at home, making of a certain glutinous material which the labouring Wasps bring to them, combs and cells.

No man ever observed these creatures to live long, for the longest lived, which are the Matrices, female or lady Wasps, live not above two years at the most, the other die every Autumn. Now whether or no the Female Wasps of the former year, after they have brought forth another brood of master Wasps, die together with the young Wasps, or whether it alwaies fall out to be so, or whether or no they can possibly live any longer time, many Authors leave undetermined. But the wilde Wasp is accounted to be longer lived than the tame, the reason is because those making their nests commonly by the highway side (from whence they are called *épistas*, by *Hom. i. e. Highway dwellers*) are necessarily exposed to divers injuries, which hasten them to their death. And yet that little time that they live, is made up in the strength of it. For if you take them off at the head, and so again at the breast, they will continue a great while after, and putting forth their sting, will as shrewdly hurt any man that shall touch them as if they never had been pulled in sunder, or were alive as before. *Gullerinus* in his book of Shell-fish, writes very confidently that they put off their shells and renew their old age every year: certainly (unless he dreams waking what he would have to be) this must needs be discovered sometime or other in their Nests.

Their Age,

Apollonius calls them *απολόγους*, *Aristot. l. 11. c. 53. μολοβους*, although they feed not on raw flesh only and ripe Apples, but upon Pears, Prunes, Grapes, Flowers, and sundry sorts of fruits; also on the sap of Elms, Sugar, Honey, and almost whatever. They feed on flesh of Serpents, and then they sting mortally. They hunt after the greater Flies, and spare not the harmlesse Bees, who do so well deserve of the Common-wealth of mankind.

Their Food,

According to the nature of the place they live in, they differ both in shape of body and disposition of minde; the trivial and ordinary Wasp being accustomed to the company of men and cattel, do seem to be more milde of nature; but those that live in woods and solitudes are more fierce; yea, insomuch that *Nicander* in one word calls them *ὀλοαί, i. e. perniciosas*, pernicious and destructive. There are also, as *Ovidius* affirms, in hotter Regions, those that are more hurtful then others, as in the *West-Indies*, whereas they differ from those of these parts both in bigness and shape, so also in their venome. For so are they reported to be far more deadly then the *English, French, yea or the Spanish or Barbary Wasps*: such as these also, *Olaus Magnus* in his 22 Book, saith, are very frequent in some very cold countreys.

The place of

The use or benefit of Wasps is observed to be divers; for besides that they serve for food for Castrels, Martins, Swallowes, Owls, Badgers, Chameleons, they are also many waies profitable to men, for they kill *Phalangium* the most venomous kinde of Spider, and they themselves are a plaister for their own stings. The *Pseudosphe* or wilde Wasp (especially that which is taken in the beginning of that year) being taken into the left hand and there held fast, *Pliny* commenderth for an excellent remedy against a Quartan Fever, *l. 30. c. 11. Miraldus* attributes much vertue to the distilled water of common Wasps, or decocted, for raising of a tumor in the place that is washt with it; applied to the belly it makes it swell as if it had the Dropsie, by which trick whores use to perswade their sweethearts that they are with childe by them; and by this way also they deceive many times very cunning and expert midwives. *Mirald. Memor. cent. 7.* from whence it may be concluded that their venome is exceeding hot and inflative.

The use of the

The Fox also (a subtile creature) is said to prey upon the Wasps, on this manner; he puts his tail into the Wasps nest so long till it be all covered with Wasps, which he espying, pulls it out and beats them against the next stone or tree he meets withall till they be all dead, this being done again and again till all the Wasps be destroyed, he sets upon their combs and devours them. *Alian.*

But men pursue and destroy them with other cunning. As thus, in the meantime that the labouring or working Wasps flee to the Elm, which useth to be in the Solstice or at Midsummer, to gather some gums material to work withall: the master Wasps remain in the Nest and sit upon their young, those they smother with the stinking vapour of Sulphur, Garlick, Reed, or such like; and throwing down their combs kill them with hunger. Now when they would preserve their Bees from being surprised by the Wasps, they set by the Hives side a pot with some little pieces of flesh in it: into which when the Wasps in hope of prey are entred, they sudden-whelm the lid of the pot upon them and kill them; or else putting hot water in at a hole scald them to death. Others hang a net before their Nests over a small Menow. Now the Wasps being drawn by a natural and strange sympathy to the Menow (for no food more takes them than that) they are presently involved in the net, and so caught, and with casting on hot water are killed. *Alian.* As also they lightly spurt out of their mouthes oyl upon the grapes, fruits, sugar,

honey,

K k k k

Preservatives
against the
stinging of
Wasps.

honey, &c. which causeth them either to fly away, or tasting the oyl, to die; sometimes they mingle corrosives with honey (as Mercury sublimed, Vitriol, Orpiment, &c.) which when they take, eats out their bowels, and so they pay well for their gluttony and intemperance.

Tetrab. 4. ferm.
1. c. 11.

Now if at any time by reason of the stinging of Wasps, there arise pain, perturbation, swelling, redness, heat, nausea, and thirst; and not long after swooning (which happens when they have poisoned their stings with feeding on venomous herbs, and Serpents flesh) Physicians have found out a preservative and remedy whereby to repell their stings and easily cure them. The virtue of Mallowses, and Marsh-mallows is excellent against the stinging of Wasps. Thus the most soft and supple herb becomes a remedy against the most warlike and injurious creature, with whose juice and a little oyl mingled with it, and the part anointed, doth either mitigate the rage of the Wasp, or doth not suffer the sting to enter, *Plin. l. 22. c. 179.* So *Avicenna*, the Wasp, saith he, will not come near any man that is anointed with oyl and the juice of Mallowses; for as a soft answer appeaseth wrath, and (as the Greeks use to say) ἡδὺς μίχιστον ἐστὶν ὀργῆς φάρμακον λόγος, i. e. A milde reply is the best allay to anger: so also in physicks we see those things that are most fluffe and unyeelding, to be relitted and beaten off with the most soft things, as the Iron with feathers, the Adamant with bloud, the sting of Wasps, Hornets, Bees, with oyl and the juice of Mallowses. What is more soft than the *Silk-worm*? which yet *Aetius* affirmeth being beaten together with oyl and the party anointed with it, is a preservative against the stinging of Wasps; the same doth the Locust and the herb Balm beaten together with oyl, if the Greeks may be credited. The stone *Garratides*, if it be the true, although dawbed over with honey, and born about, doth fray away all Flies and Wasps whatsoever, as *Sylvaticus* out of *Albertus* doth conjecture. The like virtue doth *Matthioli* ascribe superstitiously, and too confidently, to the Iron that hath the figure of the shell-fish *Strombus* graven in it.

The symptoms that follow upon the stinging of Wasps, are said to be these; they suffer all alike as those that are stung with Bees, to wit, smart, redness, swelling, but the pain is more grievous and of longer continuance, especially if they chance to be stung by the citron coloured greater Wasps, in a sinewy and tender place, for then follows the cramp, weakness of knees, swooning, and sometimes death.

Remedies a-
gainst the
stings of
Wasps.

Physicians have found out many remedies against the stings of Wasps; we shall first speak of those we have tryed and which may challenge your acceptance, being confirmed by long experience. We finde that Wasps applyed to the wound they made do exceedingly help it, being perswaded to use them by *Gilbert* an English man. It may be that not the Scorpion only hath this vertue, but the greatest part of Insects have it also, if we should make trial diligently. But if any man be stung by venomous Wasps, (which is easily known by the wound of the part, by raving and swooning, and coldness of the extreme parts) then give antidotes against venome, and open the place with a knife, or rather lay on a cautick; when it is laid open and dilated, suck it forcibly, and taking some of the earth of the Wasps nest, make a plaister with vinegar, and lay it on the sore. Also a Cataplasme made of Mallowses, Willows and Wasps combs helps wonderfully, as we proved by the counsel of *Halyabbas*. The North English men make a good plaister against the stinging of Wasps, of the earth of furnaces, vinegar and flies heads; it is worth its weight in gold. Rub the place with juice of Citrals, and let the patient drink Marjoram-seed 2 drams: or take juice of Marjoram 2 ounces, bole Armoniack 2 drams, with juice of sowre Grapes what may suffice; make a plaister. Another; anoint the place with the juice of Purslain or Beets, or with sweet Wine and oyl of Roses, or Cowes bloud, also with seeds of wilde Cucumers bruised with Wine. *Galen*. Barley meal with Vinegar is good; milk of the Fig-tree dropt into the wound, Brine or sea-water to foment the wound; give in drink 2 drams of the tender leaves of the Bay-tree in sharp Wine, which also will do much good in a fomentation. Also drink the decoction of Marsh-mallows with *Posca*: apply Salt and Calves fat. Mallowses with *Posca* is a principal remedy. *Dioscorid. l. 2. c. 42.* *Aetius* joyns an earth named *Cimolia* to these, and Clay, and Oxe-dung, and *Sesamum*, and many other things with *Posca*. Oyl of Bayes drawes out the poyson of the sting of a Wasp. Leaves of Marsh-mallows bruised and rubbed on, cure the venome of Wasps. Drink a little measure of the juice of Rue or of Balm, with Wine: and the leaves eaten, and applyed with Salt and Honey, or boyled with Vinegar and Pitch, are very good. Water-mints, Rosemary, with Barley-meal and *Posca*, juice of Ivy-leaves, Golden flower, and Owles bloud, are excellent against the stings of Wasps. *Pliny l. 32. c. 9.* *Galen* praiseth Water-mints and the seed of it drank, and Centaury, if at the same time you lay on Oxe dung for a plaister. *Lib. de simplicib. ad Paterianum. & lib. de Centaur. ad Papiam.* A branch of the wilde Palm-tree, Endive root, and all wilde Betony, laid on for a plaister, profit very much. Also drink wilde Betony 2 drams with Oxymel. First, suck out the poyson, then hold the part hurt in hot water for an hour, then steep it suddenly in Vinegar and fish-Pickle, so the pain is presently gone, and the swelling sinks away, and the venome is pacified. One half dram of Marjoram seed applied stills the pain, or 3 pugils of dry Coriander seed, or cool juice drank. *Avicenna*. Leaves of Nightshade or Houseleek laid on are good. Also bole Armoniack with Camphire and Vinegar. Nuts bruised with a little Vinegar and Castoreum: apply a honey comb, and presently hold the part affected to the fire, or put hot ashes under it, and the pain will cease forthwith. It is good to lay on green Coriander, or oyl and ashes mingled. *Rhassus*. Savorey or Water-mints applied, and the seed of them drank, or the juice of the lesser Centory drank in Wine is excellent. So are the leaves of river Basil, Mercury,

Man-

Mandragora with Vinegar. *Serapio*. A snow ball put to the fundament takes off all pain, chiefly if it proceed from a Wasps stinging: foment the part with Camphire & Vinegar, or oftentimes with snow-water. Take Opium, Henbane-seed, Camphire, of each alike, mix them with Rosewater or juice of Willows, and apply it, lay over it a cloth wet in Wine. *Ardoynus*. Take juice of wilde Mints *Aurei* 2. with juice of sowre Lemmons, make a julep. Also the juice of the *Arabian* Thorn, and of *Marjoram* help much. *Mesue*. Water-lintels with Vinegar anointed. *Aaron*. Rub the part well with the finest leaves of *Xylocaraster*, that is, sweet Cods of *Pliny*, and the pain presently ceaseth. The juice of Lettice doth the same, or the juice of *Dandelion* drank. The Mud in the bottom of a vessel where water hath stood long, applyed with Vinegar, cures the Wasps stinging. *Simeon*. Foment the part with Snow-water till it be stupefied. *Joannitus*. Any new earth, especially *Cimolia* is good: *Poly* smeered on, as also Goats milk, cures Wasps wounds. *Arnoldus*. *Alcanna* with Barley meal, and Vinegar, bound to the part, Nuts, the leaves of Walnuts, Blites, are very good; also lay on hot to the wound a Spiders web beaten with a white Onion and Vinegar, it cures. *Constantinus*. Rub the place with Sage and Vinegar, and after with *Posca*. *Guil. Placentinus*. Lay iron on the part, or Lead steeped in Vinegar. *Gordonius*. Apply Chalk in powder, and drink Mallows seed in Wine and a little Vinegar boyled together. *Varignana*. His Bezoar is Coriander taken with Sugar. *Christophorus Probus*, commonly called *Honeste Nonius*, commends Balm leaves bruised with *Posca* or with Oyl and applied. *Nonius*. *Sparagus* bruised with Honey and smeered on, Flies bearen and laid on, Savory, wilde Mints, oyl of *Momordica* anointed, cure. *Matthiolus* commends Oxe dung laid on. *Marcellus*. Any man may finde these and a great many such like receipts, the storehouse of Nature and of Physicians affords infinite remedies and antidotes innumerable to your hand every where. The Remedies for Bees and Wasps stings are the same, only that one requires them somewhat stronger than the other. In the year 190. before the Birth of Christ, as *Julius* witnesseth, an infinite multitude of Wasps flew into the Market at *Capua*, and sate in the Temple of *Mars*, they were with great diligence taken and burnt solemnly, yet they did foreshew the coming of the enemy and the burning of the City.

CHAP. IX.

Of Hornets and the Tenthredo.

They are called in the Hebrew, *Tsir dah*; in Arabick, *Zabor*, *Zambor*; in the German tongue, *ein Hornauffs horlits* *Isroisen pferzwunble*; in Brabant, *Horsele*; in French, *Fressons*, *fressons*, *foulons*; in Italian, *Colanroni*, *Crabrone*, *Scaraffon*, *Galanron*; in Spanish, *Tabarros* or *moscordos*; in the Slavonian tongue, *Sierlern*; in Illyrian, *Irssen*; in English, *Hornets*, *Great Wasps*; Hungarian, *Lo Daras*.

The Greeks call them *αὐτοπύρας* & *αὐτοπύρας*; because with their sting they raise a Carbuncle. They are called in Latine *Crabrones*, perchance from the Village *Crabra* in the Countrey of *Tusculum*, (where there are great store of them) or from the word *Caballus*, i. e. a Horse, who is said to be their father. According to that of *Ovid. Met. 15.*

*The warlike Horse if buried under ground,
Shortly a brood of Hornets will be found.*

Albertus calls it a yellow Bee. *Cardanus* will needs have them to arise from the dead Mule. *Plutarch* in the life of *Cleomedes*, saith they come out of Horse flesh, as the Bees do out of the Oxe his paunch. Now whereas they are more melancholy and sullen then the Wasp, why should I not with *Virgil* say that they are produced of the Ass? whom we have seen not only to fight with the Horse, (when as the female or the Ass would be backt) but also to chase and overcome him oftentimes. I conceive that those are produced of the harder flesh of the Horse, and the Wasps of the more tender flesh.

The Hornet is twice as big as the Wasp, and very like it in shape; they have four wings, Their Description. whereof the two undermost are twice as little as the upper or outermost, the which are fastened to the shoulders, being of a dark brown and Chestnut colour, and with which they fly very swiftly. Six feet they have of the same colour with their breast and shoulders, their head long, of a yellow hew: their eyes hanging out in fashion like a half Moon, between which grow two horns like a sickle or reaping-hook of the same colour with the feet. The belly is made fast to the shoulders with a small thread; of which the one half is of a duskie colour, and begirt with a girdle of Saffron colour: the other half seems to be all Saffron colour, set with five dark colour specks, together with a small triangle, having moreover on both sides of them certain joynts, by which they can contract or extend themselves at pleasure. On both sides of the belly they have four black spots, and their tayle is armed with a long, stiffe and exceeding venomous sting. As they fly they make a murmuring and humming noise, far more hoarse than the Wasp. Who notwithstanding they are gregal or hearing creatures, are fierce and cholerick, and alwaies of a wilde nature, nor (like wilde plants) do they admit of any taming: of such malignity are they that with

*Arist. Hist. l. 9.
c. 2.
Arist. Hist. l. 9.
c. 42.*

Their place
and dwelling.

Habitation.

L. 11. c. 21.

twenty seven strokes they will kill a Man, or a Horse, especially in the Dog-däies, at which time their nature is more hot; and men are more weak by reason of the abundant exhalation of the spirits. No wonder then that in sacred Writ they are compared to most cruel enemies, *Exod. 23. 28.* So *Ovid Metamorph. 11. Spicula Crabrenum ardentia*, the fiery darts of the Wasp. And *Virgil* in the 4 of his *Georgicks* calls them *asprissima*, very sharp. *Terence* in his *Phormio*: *Plautus* in his *Amphitryo* use that Proverb, *Irritavi Crabrones*, I have stirred up a Hornet, to shew the nature of women when they are angry, the more you strive with them, the more you provoke them, and at length go by the worst. Now as amongst Bees both the Drones and the Kings or Master-bees have no sting, and also some Wasps, (as we have said before) so amongst the Hornets there is not one but hath, both those that are in trees and those that are in the ground, not so much as the Captain or Master Hornet but hath one. For the Hornets as well as the Bees and Wasps have their Commanders or Master Hornets, what ever *Pliny l. 21. c. 11.* dreamt to the contrary; only they are bigger than the rest according to the proportion of Hornets to Hornets, then Wasps are to Wasps, or Bees to Bees. They do also remain within doors as the Master Wasps do, but they never breed but one Master Hornet of them in a Nest, for fear of tumults and taking of parties; but as they are very troublesome, and farall to those that from without annoy them and seek to spoyle them, so they are very strict in preserving domestick peace and quiet, and in keeping of mutual society one with another, and in providing for their young they do even outstrip the Bees themselves; for they never quarrel about priority of place, nor distract them with diversity of employments, nor make a stir or tumult about the election of their Chieftain or Master Hornet, but all have one and the same employment, and they all diet together, whatsoever prey they take, or small creature they kill abroad, they carry part of it home to their fellows, and young ones.

Neither do they every year send out and expose to the wide world their young ones as the Bees do (and for which they are censured as in that respect unnatural) to finde out an harbour where they can for themselves to dwell in: but all their new brood they nourish and bring up in their own bosome, and as need shall require build more and bigger nests to keep them in. As for their King or Master Hornet (whom also they dearly love and respect) such a one they have that doth appear not to want power to command, but occasion to exercise it. Only he excels the rest in courage of minde and bignesse of body (as it is usual for Princes to do) for he is more fierce than any of the rest when he is to encounter with foreign enemies, as he is on the other hand most milde and gentle to his subjects at home.

The Hornets make their nests under ground: casting up the mould as the Pismires do. For neither they nor the Wasps send out young swarms as the Bees do (as is before said) but as the young are bred there they remain, and so they dig their nests bigger and bigger, as the family growes greater and greater. They make their nests exceeding large; we took 3 or 4 baskets full of combs of the lustier brood: they have very little or no honey in their cells; a drop or so where their young are.

If any of them chance to wander from their nest, they gather themselves together into some tree, and there make their combs in the top, which oftentimes are easie to be seen, in which they procreate one King or Master Hornet, who when he is grown up, leads away the whole troop and provides them a nest with himself.

The wood or wilde Hornet (saith *Pliny*) live in hollow trees all the winter, like other Insects they lie hid, they live not above two years. Their sting is seldome without a feaver, causeth a carbuncle tumor, and exceeding great pain. They build their Nests far more artificially than either the Bee or Wasp, sometimes in the hollow trunks of trees, or else under their roots in the ground, which they make bigger and bigger according as their family increaseth, and curiously plaister over with a kinde of slimy spittle gathered from gummy leaves. The mowthes or passages of their cells are never upward, but altogether downward; and they very providently place the bottom of their cells upwards, that the rain may not pierce through them, or lest otherwise they should be exposed to the extremity of wind and weather were the head above. All their nests in a manner are exactly 6 square, the front or outside whereof is beset with white and rusty iron coloured segments; the matter of them is membranous, much like pieces of Beech-bark, when it is roll'd together and shrivel'd up with heat. Whilest *Penninus* was at *Peterborough* in *England*, he saw in the wide and open street a Hornet pursuing a Sparrow, whom when he wounded with his sting he fell down dead to the ground, and with the admiration of all that beheld them, he suck't out and fill'd himself with the blood of the slain prey.

Concerning the Copulation of Hornets *Arist.* knew nothing of certainty, as neither from whence nor how they are bred. But for as much as they do for certain lay their young at the very sides of their cells, as Bees and Wasps do, it should seem after the same manner they bring them forth. But if they do couple, they do it in the night, as Cats do, or in some se-



cret places, out of all possibility of being seen; where *Argus* himself should not espie them.

The Hornet doth not feed on flowers, but lives for the most part on flesh: and rather than fail, oftentimes they will stoop to dung and excrements. They hunt after great flies also and the smaller birds, which when they take, they first wound the head as the Hawk doth, and then pluck it off and fly away with the rest of the body. In the winter they die many of them: because they do not as the Bee, lay up provision beforehand, but only live from hand to mouth, regarding nothing but their present necessity. *Arist. l. 5. Hist.* Moreover, as *Laudius* observes, they watch about the Bee Hives, and getting on their backs use them in stead of a Coach or Chariot to carry them; for when the poor wretches strive to fly away, they carry a most cruel rider on their backs, who when he hath sucked out all the juice that is in the Bees body, is the most ungrateful of all winged creatures, he kills and eats up him which supplied his hunger. Also all sweet things whatsoever the Hornet will feed on: insomuch that I have seen him with mine own eyes to eat of grasse worms. But the *Indian* Hornets have such a vast appetite (as *Ovidius* witnesseth) that they will light upon Oyl, Butter, Cakes, Sawce, and all liquid things whatsoever; not sparing napkins or table-clothes, which they will conspurcate and defile with their filthy excrement, and laying of their slimy eggs. Now as they feed upon what they got from others, so they do not want one to prey upon them likewise. Above the rest the Brock, who about the full of the Moon enters their dens or nests and destroys both house and family. Nor are they food for this useful fat creature only, but they serve the countrey men by way of prognostick, to foreshew the alteration of weather; for if toward the evening they are seen to fly about in greater store than ordinarily they are wont to do, it is a sign that the next day will be fair and hot: but if about twilight they often enter into their nests as it were to hide and shelter themselves, then expect rain, winds, and stormy weather to ensue. Upon which *Avienus* thus:

*So when you see troops of boarse Hornets fly,
Late at the end of Autumn, they foreshew,
When first Virgilius stirs the evening skie,
That storms at sea shall presently ensue.*

Moreover whereas the same Medicines that cure the stinging of Wasps, will prevail also against the stinging of Hornets: yet as *Aggregator* hath taught us, a Hornet is the Bezoar stone for its own wound laid on with *Posca*, Oyl, or Oxe dung; Also Bole, and all fat earths are commended, such as *Bacchus* applied to bald *Silenus*, who was stung with Hornets, whilest he rifled their nest for honey supposing they were Bees: *Ovid.* describes it neatly in 3 *Fastor*:

*Thousands of Hornets his bald pate torment,
And with their stings they wound his ugly faces;
He falls, and cries for help, a foul disgrace;
What remedy, it was too late for to repent.*

*When that the Satyrs came, & found poor Silenus,
His face all swoln, and halting on his knee,
They could not choose but laugh, Bacchus said thus,
Noint it with Mud, it prov'd a remedy.*

He that desires more remedies against the sting of the Hornet, may finde of them plenty in the story of the Wasp. For Authors do seem to make them all one, only with this difference, that in this case they ought to be given in greater quantity, and the use and application of them longer continued.

Now let us proceed to the Insect called *Tenthredo*.

Whether it ought to be called *τενθρήδων*, *τενθρήδων*, & *τενθρήνη* according to *Aristotle*, or *πεμφρήδων* according to *Nicander*, let Philosophers judge; they seem to me to differ only in name and bignesse. For whereas the Scholiast of *Nicander* calls it *insectum σφηκώδες*, an Insect like a Wasp, I do not weigh that, when as ever and anon, by Poetical licence, he calls the Wasp, *apem Croceam*, a yellow Bee. What name it hath in other nations I know not, and (to say the truth) nor know I the little Beast it self. Only this I finde, that Authors describe it to be in colour like a Wasp, like a Bee in bulk or bigness, and in communication of labour like all other social winged Insects. He is very sawcy, loves the kitchin well and fish, insomuch that some think it should be written *τενθρήδων* in stead of *τενθρήδων* and *τῆς τενορίας*, because it is given so much to Licorishnesse. *Hesychius* calls it *ἀγρίαν μίλισσαν*, a wood or wilde Bee. *Hermolaus* thinks they should rather be called *ἀρθρηδῶνες* or *ἀνθρηδῶνες*, rather than *τενθρήδῶνες*, as he saith it is corruptly read in *Aristotle*: He makes his nest in the ground as the Wasp doth, with many rooms very large and handsome. *Pemphredon* will not by any means yeeld that the *Pemphredo* should be the same with *Tenthredo*. For the *Pemphredo* (as the Scholiast of *Nicander* describeth it) *ἔσθ' ἐστὶ παραπλήσιον μίλισσῃ, ἀλλὰ ἢ τενθρήδων σφήκι, i. e.* the *Pemphredo* is very like the Bee, but the *Tenthredo* like the Wasp. But yet notwithstanding the Scholiast forgets himself; who writes also of the *Pemphredo* after this manner: *Pemphredo* is an Insect like a Wasp, it hath a sting, is greater than a Pismire, but lesse than a Bee; it hath wings, and a various colour tending to black; in fair weather it gathers sustenance from the shrubs in the valleys, then it flies and laies it up in the hollow oaks.

This Insect haunter woods and mountains, gathers honey juice from flowers, and layeth it up

in a hollow oak as being his Repository for the sustentation of his life ; but honey he makes none, wherefore they differ in no other thing but in bignesse ; rightly termed of the Poet, *Parvula Pemphredo*, i. e. a small *Pemphredo* : as degenerating only and especially by that mark from the *Tenthredo*. Of winged Pismires, we shall speak in the Chapter of Ants. And this shall be sufficient hitherto to be spoken of winged Insects, such as are social and live together. Now we shall bend our discourse to speak of winged solitary Insects, or such as live severally by themselves.

Amongst these solitary ones, some there are that have nests, as the young Drone called *Siren*, the Drone called *Bombylius*, and the *Bombyx* ; others that have no nests, as the Fly, the Gnat, the Butterfly, the Moth, the flying Glow-worm. Those that build nests, are the *Sirenes* of both kinds, so called by *Eustathius*, ἐν σπηραδὶ πνέει φωνὴν ἔχει, i. e. because they seem to have a kinde of articulate or significant voice, or perhaps as that sea Monster, καὶ τὸ σείζει, because with his pleasant noise and buzzing he doth as it were tickle and charme the ear ; and not unfitly καὶ τὸ σείει, because they beat and flutter in the air with their wings.

Of the *Sirens* there are two sorts, the one lesse all of a duskie colour ; the other bigger black mixt with other colours. This sort *Pennius* referreth to the species of the Wasp, and so he describeth it in his drafts. All the body black, except the back, which is reddish from the middle almost to the tail, the extremity of which being black, hath silver coloured wings affixed, the former twice as big as the other : they harbour in wals, and in the brinks of ditches, and ruinous buildings ; whether they have any sting, or no I know not.

The *Bombyx* is so called καὶ τὸ βέμειν, because they never flye but they whirle and turn round in their flight : whence the Greeks call *Topps* or *Wheels*, βέμειν. It is a creature resembling the Wasp, of a black hue, having a sting like as the Wasp hath, but stinging so deadly, and with such force, that it leaves the weapon in the wound. As a remedy to this *Nicander* commends the Pine tree Gum, and the unctuous honey of the *Tenthredo*. *Parmeni* in his *Iambicks* makes mention of this creature, which in the time of vintage useth to eat the ripe Grapes. Another of this sort is found in *Assyria*, but of greater bulk. Some of them build their nests spire wise out of clay like to glasse or salt, fastening them to a stone or such like thing, but so hard and thick that you can scarce pierce them with a dart. For these they lay and bring forth little white worms, covered over with a black membrane ; in another membrane they make wax in clay, much paler in colour and in greater plenty than the Bees. So *Aristotle* and *Pliny*. Who indeed were very sparing in their relations concerning the *Tenthredo*, *Bombyx*, and Humble Bee ; either because their nature was not so well known to the generality of the Grecians, or rather because they themselves were not so well vers'd in their History.

The *Bombylius*, greatest of the nestling Insects, is bigger than either of the *Sirens* (spoken of before) he hath his name from the humming noyse he makes : for the word βομβυλίζειν signifieth as much, to make a humming or buzzing noise : for which cause he is called by the Germans *Hummel* or *Humlen*, in English a *Humble Bee*, as you would say a sounding Bee, the name being taken from the noyse they make : from whence (as the learned *Turnebus* notes) the long pipes are called *Bombyces* from the humming sound they give.

Pollux calls these πονδισκίδες αὐλῆς, and *Theophrastus* calls a reed fit for these kindes of pipes βομβυλίας.

They are of little or no use. Insomuch that the Greeks use to call an idle unprofitable man, βομβυλίων ἄνθρωπος, i. e. a man no better than a Humble Bee ; for such is this kinde of Bee, even of no use at all. Nevertheless one *Antisocraticus*, to shew his wit, hath taken a great deal of pains to set forth the commendations of it. A cup with a wide mouth making a great noise as they drank, was in great request with the Ancients ; that so, not only the brain might be intoxicated with the liquor, but the ears also with the greatnesse of the noise. They breed under stones hard to the ground, they build their nests sometimes with two doors, sometimes with three ; in which there is found a beginning of a certain course Honey, and that (as *Albertus* relates, and *Pennius* saw) not of any great quantity ; who once found so much as he could scarce hold in three handfuls. The English Humble Bees have not all stings, only some few of them, but those that have do sting grievously ; the honey they make is not very sweet, and withall some what waterish. They fasten their wax as the Bees do to their hinder legs : they couple tail to tail, in the mean while holding fast by some plant or tree, they continue long in the act of venery, and all the time clapping with their wings they make a harsh noise, as if they were singing a Bridal song.

Ἐν τῇ πύρρῃ
βομβυλίων.



CHAP. X.

Of Flies.

IN Hebrew, *Zebub*; in Arabick, *Dubene*, *Aldubel*; in Illyrian, *Muscha*; in Spanish and Italian, *Mosca*; in French, *Mousche*; in High Dutch, *Flieg m'uck*; in Low Dutch, *Uliegh mugge*; in English, a *Fly*, from flying or scaping away, for it signifies both; in Scottish, *Flee*; in Greek, *μύια* and *τὴ μύειν*, that is, *to suck deeply*, or *to mutter*, the Fly doth both. Latine, *Musca*.

Not as proceeding from *Muscus Moss*, as some do fondly dream, but from *Musculus* a muscle; for taking off his wings you shall see that his head is full of sinewes, his body soft, his tail tendinous. Hence the diminutive *muscula* in *Boethius*, who thus elegantly cries out, *Quid homine imbecillius quem morsus muscularum necat?* VVhat so frail as man whom the smallest Fly is able to bite to death?

Now the frame both of its body and minde we describe thus out of *Lucian* and others. The Description: great Fly is the least of winged Insects, insomuch that it may be compared to the least Fly or Flee: only he is so much bigger than they, as the Bee is bigger than he.

It hath wings, not such as other things that flie have, but made of little skins as the Locusts, Grasshoppers and Bees are, but a very great deal softer, as an *Indian* Garment is softer than those of *Greece*. If any man observe the Fly when he opens his wings in the Sun, he may perceive them painted with variety of colours, as the Peacocks are. He doth not flie straight forward, as the Bats do; nor skipping as the Locusts, nor making a noyse as the *VVasp*; but winding in and out to what part of the air soever he pleaseth to move himself. Neither doth he flie quietly and in silence but with singing and melody; not so hard hearted and cruel as the gnat or little Flies, not as Bees and Wasps with a grave harshnesse, making a horrible and terrible murmuring: yea so far doth the Fly exceed all these in sweetness of sound as he flieth, as the small Pipe doth the Trumpet and Cymbal, or as still musick is sweeter then the loud.

He hath a very little head bound to his neck, turning every way, not compacted and fastened to his shoulders as the Locusts is. His eyes stand out very much, shining as if set in horn. His breast is very firm and well compacted. He hath six feet growing out of his body, not as the Wasps fast bound or tyed to it; he goeth only with four of them, the other two so emost serve in stead of hands; as you see him commonly go upon four feet, in the other two holding up something or other that he hath gotten to feed on to his mouth as men do, and as we do. His belly is slender answerable to his breast, having broad girdles and scales. He doth not sting with a sting as the Bee and the Wasp do, but with his mouth and snout like the Elephant, and he eats and takes up things with it, and sticking in a concave vessel he holds it in the top of his snout: out of this comes forth a tooth, with which he pricks or bites: he drinks nothing but milk and bloud; the which he draws forth of those he stings with very little or no pain at all, but only with a kinde of titillation or tickling. The light, like Truth, he doth exceedingly rejoyce in, and doth behave himself honestly therein and civilly. Yea the Fly doth so covet the light, that many times with the Spider or Spinner he loseth his life for his pains; at night he goes to rest (as honest folk use to do) and makes no noyse. He does nothing in the dark, counting it unbeseeming for him to do any thing privately, or to be guilty of that fact which if done in the light would be a disgrace and disparagement to him. I can assure you it is no little understanding that he hath also; whereby he doth escape the wiles of his treacherous enemy, the Spider: for he marketh him as he lies in wait for him and looks upon him, and so declines his force lest he should be taken in his net, and be destroyed. I must not speak of his prowesse and valour, for in that he may seem to surpass man himself. *Homer* the Prince of Poets, when he did endeavour to set forth and commend the gallantry of the bravest noble man, doth not compare his strength to that of the Lion, Leopard, wilde Boar or the like, but to the undaunted courage and confidence of the Fly. Who although he be never so often repulst and beaten off, comes on again, and bites as close as he did before: yea such a strength he hath with him, that he will not wound the skin of a man only, but of an Oxe or Horse: yea the Elephant also when he gets between the wrinkles of his skins, he will shrewdly vex him, and according to the bignesse of his snout gash and wound him: when he bites, 'tis not out of rusticity or clownishness to get bloud only; but by way of love & humanity, & for that reason especially he seisseth upon the fairest: yea what a pretty thing it is to see a company of Flies flying to and again playing and sporting one with another, and hanging upon a thred as it were dancers on the ropes? Moreover as the cleanly horse doth, she laies her ordure all in one place, so that upper wainscot and seiling of the rooms where they use are all full of great spots which they make on that occasion, which is an argument that they are not altogether void of some kinde of memory also. *Tzetzes* saith moreover, that such is their love to those of their own kinde, that they bury their dead corpses. *Alian* doth as much discommend them as *Lucian* commends them: and he inveighs against their procacity and sauciness; which is such, that being driven away never so often, they notwithstanding return with fresh assaults. He blames them likewise for their impudence, in that they couple in publick, and know no end of their Venery almost; neither do they as the Cock, when he once hath trodden presently fals off, but is born upon the back

The commendation of the Fly.

back of the female a long while, and she carries him; they fly away together into the air, yet are they not sundred with flight. Learned *Pennius* caught two Flies in the Act, and shut them up in a box, and the next day found them together still in the same posture; which doth much confirm what *Arist. Elian* and *Niphus* say, to wit, that Flies do continue very long in the act of generation. *Plutarch* saith that the Mouse and the Fly are indocile and unteachable creatures, who although they use the company of men daily; are by no means tamed, neither do they shew the least courtesie, or the least shew of a grateful minde for what they receive of any man: both of them are by nature very suspicious, alwaies fearful of treachery, afraid to be caught. She is altogether idle and careless, feeding upon the labours of others, and where ever she comes she hath a full table. For her the Goats are milked, and the Bee bestowes her pains as much for her as for any other; the Cooks provide Messes for her, the Confectioners Sweet-meats, the Apothecary Syrups, and these she tastes before Kings, and walking all over the table she feasts her self with them in their company, as also with all other whatsoever. *Plautus* took her to be of no use in his *Curculio*, where he thus speaks: *In my conceit you are a kinde of Lions amongst men, as Flies, Gnats, Sowlice, Fleas, that do much hurt and do no good.*

Well therefore did Nature take care, that she should have no certain place to dwell in, as honest folks have, but should wander up and down, where she could get her a lodging and travelling harbour. But in impudence she goes beyond any begger whatsoever; because they having had once a denial are therewith satisfied, but this begger will take no answer, but will fill his unprofitable gut with the best cheer in the house whether the master will or no. *Aristophan* in his *Pythagorista* recited by *Athenaus*, brings in an impudent Parasite speaking on this manner:

Cœnis etiam non vocatus, ut musca, advolo.

I hasten to supper as the Fly, without any invitation.

Some such like matter *Socrates* upbraids *Theodate* withall in *Xenophon*: wherefore the *Egyptians* being to set forth dishonesty and impudence together, they made the picture of a Fly, as *Orus* saith. Whence it is, that *Cicero* (if I be not deceived) saith it was said sometimes by way of jest concerning a troublesome impudent youth, *Abige Muscas puer*: Boy beat the Flies away. To this so pestilent a little beast Nature (as meet it should be) hath denied long life therefore. For as soon as winter begins to come on, the greatest part of them expire; and those that escape starving, in cliffs, wals, hollow places, ovens and such like, they lie all the while weak and languishing, and not able to hold out another winter. All of them are begotten of filth and nastinesse, to which they most willingly cleave, and resort especially to such places which are so unclean and filthy; unquiet are they, importunate, hateful, troublesome, tumultuous, bold, sawcy. *Homer* amongst the battels of the gods and heroes elegantly descants upon the basenesse of the Fly, who like the Mouse, alwaies hath his hand upon another mans trencher.

*The Fly, though often forced from your skins
Yet she returns again, shee'l never lin.*

Yea *Solomon* himself thought their nature to be so bad, that he saith in his Proverbs, that one of them is able to spoil a whole box of ointment. To conclude, the *Hebrewes* to set out the Prince of Devils, called him *Bahalzebub*, i. e. a Fly: which useth the same diligence, and never leaves off doing of hurt. Which is the reason that Witches and Wizards will have their Familiar to be alwaies in likenesse of a Fly, using the body of a bad creature to far worse purposes. I could alledge much more a great deal than this against the Fly, if I desired the name of *Antilucian*, with whom it is a disparagement for a Christian to contend, yea or to meddle withall, more than with the most loathsome carkasse. Neither will it be more disgrace to me to make nothing of a Fly, than for *Lucian* to make him an Elephant: both indeed being but losse of time, and vain ostentation of wit. But yet nevertheless that lest like the Eagle I may seem to contemn flies, or to neglect the least of Gods works; I shall with all diligence set down the Generation, Difference, and Use of Flies.

Flies are generated two waies, by coupling with their own species (which is done in the summer season, and in the winter if the weather be fair) or by the putrefaction of other things. The Flies use copulation, some of them dispatch the work sooner, others after some space of time: the manner whereof (as *Arist.* affirms) is divers from most of the other Insects; for when the male ascends the female, he takes the member of the female (that is stretched forth to seek for seed) into his body, the which being accordingly received, he furnisheth with matter and strength to bring forth. Reverend *Pennius* saw two Flies at *Hedelberg* flying in the act of copulation, who (as it had been the son of *Mercury* or *Venus*) seemed to be of a mixed nature, and they did get up by turns. Somewhat a while after copulation they exclude or shoot forth little worms, as the Hen doth eggs; which afterwards by a strange *Metamorphosis* are again changed into Flies. Although *Pliny* contrary to experience doth without ground affirm that nothing else doth arise out of them. Very rightly *Scaliger* saith, that the Flies at first do generate Insects unlike themselves, but yet in a capacity of becoming the same, (that is to say) white little worms, which afterwards being

being made like to Flies, have eyes hanging down by their sides; in reference to whose likeness there is a kinde of disease in the eye, called *μυοκέφαλα*, i. e. headed like a Fly. Now a great number of Flies, if not the more part of them, arise from dung, whence I have seen them to come perfect where before they were begun. But in this kinde of generation we must note, that Flies are not immediately procreated of dung, but of the little worms proceeding of digested dung, as the Philosopher writes in these words, *Ἀπὸ δὲ μύιας ἐκ τῆς σπυλίκου τῆς ἐν τῇ χασμῶντι καὶ μύιας, &c.* Which Gaza translateth thus: *Musca ex vermiculis fimi digesti in partes gignuntur, &c.* In English thus: *Flies are begotten of dung digested into parts, therefore they that desire to meddle in this business, strive to distinguish the dung that is not digested, from that is mingled with that which is digested.* Now these worms at the first are exceeding small, afterwards begin to be red, then as yet without motion as it were, cleaving by fibres they begin to move; then they become unmovable worms, afterwards they move again, then become they again to be without motion, and in conclusion by the assistance of air and sun there is begotten a living Fly. Arist. here, as it seems, spake rather from others observation than his own skill. For neither those worms that are generated by copulation; nor those which are bred of putrefaction are subject to so many metamorphoses or transmutations, before they are transformed into Flies. For they only grow to such a bignesse, afterwards are turned into a Nymph or young Fly, and so lie still, then at a certain time appointed by Nature the Nymph groweth to be a Fly.

Neither are Flies begotten of dung only, but of any other filthy matter putrefied by heat, in the summer time, and after the same way spoken of before, as *Grapalans* and *Lonicerus* have very well noted.

But yet the question would be, whether Flies are not immediately generated of putrefaction, and not of those worms. For experience witnesseth that there are a certain kinde of Flies which are begotten in the back of the Elni, Turpentine-tree, Wormwood, and so perchance in other herbs and plants, without any preceding vermiculation, or being turned into little worms first. So that Scaliger that angelical man, and the most learned of this Age, writeth thus of their original: *Peraadventure (saith he) they may seem not to arise from putrefaction, but from some certain principles changed as from some kind of liquid gum, or from some other matter concocted by Nature for this end.* Now whether concoction can be without putrefaction there is the scruple. Each part of mans body hath its conveyance for the expurgation of its excrements, called in Latine *Emunctoria*. But whether a living creature may be the excrement of a creature that never had life, let others determine; here my sight fails me, or rather I am altogether blind. A third way how Flies are begotten, Sir Tho. Knivett an English man, and of singular learning, did first of all inform Pennins of, and it was thus: The corrupted body of a Caterpillar or a little bruised, is converted into an imperfect *Aurelia*, then from that not a Butterfly, but three black eggs are cast out that are somewhat long fashioned, from whence proceed ordinary Flies, or others like to them; and some times the *Aurelia* being putrefied, neither Butterfly nor eggs come forth of it, but white worms, (sometimes one, sometimes many) come forth, whence are generated very small Flies.

The which famous observations of natural History truth it self doth enjoyn us to acknowledge received from the foresaid Knight; for no man before him did ever observe the like. Peter Martyr in his 3 Decad. and 6 Book, reports that he saw drops of sweat falling from the fingers of labourers, turned into Flies, and so they write that in the marshy Countrey of *Paria*, by reason of the contagiousnesse and venomous quality of the air, the drops that fall from the hands of the labourers do bring forth Toads. But whether it be done immediately or mediately by some worm out of which the Fly should break forth, he doth not shew.

In the year 766. before the Nativity of Christ, *Rivallus* then being K. of Britains, there were shewres of bloud three daies together very great, very many, from whence came abundance of Flies, and so poysonous, that with their stings they killed a great number of people: so saith the English History.

Now the Fly for the most part is not at the first a Fly, but a worm, proceeding either from the dead corpses of men, or the carcases of other creatures, then it gets feet and wings, and so becomes of a creeping creature, a flying; and begets a little worm, which afterwards becomes a Fly. Take off the head of a Fly, yet the rest of his body will have life in it, yea it will run, leap, and seem as it were to breath. Yea when it is dead and drowned, with the warmth of the sun and a few ashes cast upon it, it will live again, being as it were anew made, and a fresh life put into it, inso much that *Lucians* disciples were perswaded and did verily beleieve that the soul of them was indeed immortal. Forasmuch as it goes and comes, it owns its own body and raiseth it up, so that it drinketh, eateth, wipes its head and eyes, makes clean its snout, rubs its shanks and legs, claps its wings and flies: verifying the opinion of *Plato* concerning the immortality of the soul, and the fable concerning *Hermotimus Clazomenius*, whose soul would often go out of his body, wander up and down a great way by it self, and afterwards would return into the body, replenish and raise it up again. Some will put drowned Flies into warm Ashes, or warm Bran, and in a quarter of an hour fostering them in their hands and breathing on them, they will bring them to life again.

CHAP. XI.

Of the divers kinds of Flies.

There is a great deal of difference amongst Flies, whether you respect the matter or form of them. Some of them come from themselves by way of copulation as hath been said, others from some ascititious or external matter: such are they that are bred in Dung, Apples, Oaks, Beans, &c. In regard of their form or shape, some have two wings, others four, with horns or without; some short, some long, some have round tails, others sharp or piked, hairy and without hairs: in a word, they vary in colour, shape, bigness according to the nature of the Countrey they live in, or the putrefied matter whereof they are made. I wish I had seen them all, and I know *Apelles* himself would hardly have been able to paint their fashions.

Now for brevities sake we will make two sorts of Flies. For either they are ἀνθρωποφάγοι, or ἐντομοφάγοι. Those that feed upon their own species, or those that feed upon other things. The first of these called in Latine, *Lupus*, in English, the *Wolf fly*, is described to be big, black, with long shanks; he feeds especially upon flies, if he cannot come by these he preys upon other Insects. Those that feed upon things of another species: either they are such as feed upon living creatures, or upon things inanimate or without life. Of the first kinde is the *Flesh-fly*, *Horse-fly*, *Oxe-fly*, the *Suck-egge-fly*, the Fly that eats Serpents, the *Dung-fly*, the Fly that preys upon the *Humble Bee*.

The *Flesh-fly*.

The *Flesh-fly*, in regard of his bignesse and bulk of his body, is the biggest of all other, he hath a reddish head, his body full of gray spots, his belly thick, blew, transparent, having two wings, hairy, very greedy of flesh. He flies for the most part alone, unlesse it be perhaps in the flesh-market or Shambles; where the Butchers turn fencers, continually killing and beating them away with their Fly-flaps, lest with their fly-blowes (which *Hippocrates* calls *ιὺλός* in Greek) their flesh should be tainted. There is a story (as *Celius Rhodiginus* relates it) that at *Toletum* in the open Butcher-row, one Fly amongst the rest used to come by the space of an year, as white as snow, which I dare say was of this sort in regard it was seen to be

The *Dog-fly*.

so long together in that place. *Κυρομύια*, *Musca canum*, in English a *Dog-fly*; in the German tongue *Hunds Fliege*, *Hunds Mucken*; in the Polonian, *Psia Mucha*; *Isidore*, and *Euthymius*, and *Philo*, suppose it to be a Wood-fly: very irksome to the ears of Dogs, the which notwithstanding they shake it off never so often, yet returns with as much violence as before; where if he tarry any while, with the galling of the flesh he raiseth a blister: of whom *Homer* in his *Iliad*. 15. Τίτ' εὖ κυρομύια διδὲς βεῖδι Εὐπειλάωνος, i. e. *Why like a Dog-fly dost thou contend with the gods?* *Athenaus* also in his 4 Book, reports that the like name of Dog-fly was given to a certain famous Curtizan for her unparallel'd impudence, mordacity and troublesome nature. Now the Dog-fly (to borrow the words of *Philo*) is an Insect that bites hard, is importunate and treacherous: *ἐντομον λίσσιν ἀνθρώπων, ἀνάνδης καὶ ὀπίσθηλον*. This seemeth to me in holy Writ, as in *Exod*. 8. *Psal*. 77. & 104. to be the common name of all hurtful Insects, as appeareth by the *Chaldee Paraphrase*. As for their more special signification, they can be compared to no kinde of Fly better than those black great broad flat ordinary Flies which do so boldly fly upon cattle, and not only suck from the outermost skin of them watry bloud as other Flies, but with great pain fetch out and suck bloud very deep. They want a snout, but in stead thereof they have two teeth as the Wasps have, which they fasten deeply into the skin, but more especially they infest and annoy the ears of Hounds in Germany, insomuch that (as *Camerarius* witnesseth) they even pluck off the skin. These an English Gent. said he saw in Italy in shape altogether like the Dog-fly, only without wings: whose wings also are represented so close to his body that the learned Dr. *Barbar* takes them for the same. *Niphus* doth ascribe unto it wonderful swiftnesse of flight and roundnesse of body. The nearest in likenesse to it is the Tick or Sheep-fly, making a kinde of a horrid noise as he flies, and is in his flight more slow and heavy then a Gad-fly. There are two kinds of them, differing only in bignesse, the greater which is the *Forrest-fly*, the other the lesse living in hedges and quicksets.

The *Horse-fly*.

The *Horse-fly* called in Greek *ἵπποβίβλος*, in the German Tongue *Ross Mucken*, is of the bignesse of the ordinary Fly, with a flat, hard, smooth body, and of so compact a substance, that you can scarce break it betwixt your fingers; they are somewhat blacker than the common sort of Flies are, they never fly right forward but sidelong, as it were hopping and skipping as they go, they fly neither long nor fast. In England especially they are very troublesome to Horses, stinging them continually about the ears, nostrils, stones, and





the tails, with the sweat whereof flowing down to the root of the hair they live and are sustained. The English call it a side-fly or a Horse-fly, as the Greeks *αλευ εσπολύτας*, of the like signification. Some of the Greeks call them *κυροεσπύς*, and they say that in hot Countreys the Dogs are very much vexed with them. They say that it is of that kinde *Croto* makes mention, having wings and able to fly; but yet I think this to be another species; and only proper to Horses, and offensive to them.

This Beast-fly is in Latine called *Asilum*; in Greek *οἰστρος*, from *στρίβω* or *king or stinging*: whence not only this Insect but another that useth to scare Bees (of which hereafter) and a third very formidable to some kinde of Fish, are called by the same name of *Oestrum*. Of this kinde of Fly the Poet *Virgil* in the 3 of his *Georgicks* chanteth after his manner:

*A Fly there's in Silarus woods, that much
Useth neer to green holms, the Greeks call such
Oistrum, Asilus is the Latine names
It makes a sharp harsh noise, and with the same
Heards of cattel frighted fly and quiver,
Woods, and barks sound of Tanagrus River.*

Calepine and other Lexicographers of his gang, besides some Physicians, and even *Pliny* himself makes this Fly one and the same with the Oxe-fly, so that it is very probable that they did not so heedfully read *Aristotle* as they might, or did not indeed understand his meaning. It is confessed on all hands, that *Asilus* and *Tabanus* are a species of Flies, and that both of them have a sting in their mouth, with which they pierce the sides of the beasts, and suck out their blood. For so saith the Philosopher, *οἱ μύωπες καὶ οἱ οἰστροὶ τὰ δέρματα διατρύπτουσι καὶ τὴν αἷμα πρὸς τὴν τέλει πρὸς τὴν τέλει*: Oxe-flies and Brees make holes in the skins of four footed Beasts, and they have a strong tongue which serve them for a sting, they are creatures that eat blood, &c. But yet that they differ much, *Aristotle* and *Ælian* plainly shew. First the *Tabani* are more frequent especially in woods and highwaies that are beset with trees and hedges, as they who use to travel on horseback know to their great trouble and vexation. For in the heat of the day they sting deeply: And being then greater in number do draw out such a quantity of blood, that many times the horses strength fails them, in so much that the Countrey people are forced to beat them off from their horses with fly-flaps and boughs which they carry in their hands. But the *Asili* are more rare, and never fly but near the waterside. Moreover the *Asili* (as witnesseth *Aristotle*.) do take their beginning of certain kinde of broad and flat little creatures which haunt about riversides: but the *Tabani* come of certain worms breeding in wood or timber; that which *Sostrates* wrote, and *Pierius* diligently hath observed. Besides the *Asili* do trouble Oxen and all living creatures, according to that of *Hesychius*, *μύωπες μύωπες πρὸς ἐρεθίζουσι τὰς βεῖς καὶ τὰν ζῶον ἐλαύνουσι, οἰστρος δὲ μόνον βεῖς*, but the *Tabani* trouble Oxen only. To which agreeth that of *Orpheus*, vers. 47.

*Νῦν δ' ἐπεὶ ἀερόφοιτος ἀπὸ πρὸς δὴ οἰστρος,
Ημῖν τερον δέμας ἐμπροσθεν εἰς ἔχοντο εὐρύον, &c.*

*The horrid Brees mans body doth not spare,
He flies from us into the open air.*

And *Homer* in his *Odysses*.

*Οἷδ' ἐποβόντο καὶ ἰάχεον, βέες ὡς ἀγλαῖαι
Τὰς μὲν γὰρ αἰολὸς ἐρομένης ἐδύνησε
Ὡς ἐν εἰαρινῇ, ὅτε τ' ἡνίαλα μακρὰ πύλον.*

*But they fled home as herds of Oxen doe,
When that the Brees doth force them for to goe,
In the spring time when daies do longer grow.*

Where the *Scholiast* thus defines this kinde of Fly, *Οἰστρος ἐστὶ ζῶον ὑπερβαλὼν τὴν μορφὴν, &c.* The Fly called *Oestrum* is of a yellowish colour, who when it enters the ears of the Oxe, causeth him to run mad: upon which *Callimachus* in imitation of the Countrey people calls him *βοώδον*, an Oxe-driver. But the *Myopes* or *Tabani* do set upon Men, Horses, yea and Serpents (as *Nicander* affirms). Their shape and form is also different, as the Philosopher sheweth *De part. Anim. l. 2.* in these words: The tongues of the *Asili* and *Tabani* are alike, of a purple colour; yet these dare seize upon men, the other upon Oxen only. Now the *Asilus* hath a green head, and the rest of his body all over yellowish, having a greater snout than the *Tabanus*, but making not so great a noise, or buzzing; he carries before him a very hard, stiffe, and well compacted sting, with which he strikes through the Oxe his hide; he is in fashion like a great Fly, and forces the beasts for fear of him only to stand up to the belly in water, or else to betake themselves to wood sides, cool shades, and places that the wind blowes through. For whilst they stand in the cold water they flap their wet tails all about their bodies, and so cause him to be gone.

gone. The *Scholiast* of *Nicander* saith that they are bred of Horseleeches. As if he would have us to understand Horseleeches by those flat creatures (of which *Arist.* makes mention before) and yet it is against nature or experience that blood-sucking mothers, should bring forth a blood-sucking brood. He flies exceeding swiftly; drawes blood with much pain.

Pennius hath set down 2 very rare kindes of *Afilis*, one of which was sent him out of *Virginia* by *White*, the other out of *Russia* by *Elmer* a Chirurgion for a great present. That out of *Virginia* was full as big as the biggest Flies, having a reddish head, and very like in shape too, but only that the head was black, and had from the shoulders a white streak drawn to the mouth, having also bigger and blacker eyes. He had in his mouth a long sting and very strong, his shoulder of a blackish brown colour, from whence came forth two wings of a silver colour, to the tail downward, it had six or seven joynts or fissures, of a whitish colour, all the rest of the body blackish. In swiftnesse of flight inferiour to none, surpassing the most; his belly was between an ash and yellow colour, or a pale green. That of *Elmer* which came from *Moscovia*, had silver wings longer than the whole body, great eyes, very long, taking up almost all the head, a black bill or beak, hardish, tripartite, with which out of hand she penetrates hose lined with a three double cloth, skin, flesh and all, sucking it with great pain. As for the Generation of the *Afilis*, or the Fly with great eyes: I wonder at the inconstancy of the *Philosophers* opinion thereupon. For first he makes them to come of a little flat creature swimming in the water (which the *Scholiast* of *Nicander* not unfitly calls *βελιδνα*, i. e. *Hirudines*, in English *Horseleeches*) and in the 8. of his History, he will have them the off-spring of the Gnats, in these words: *ἐν τῇ δὲ τῇ ζῴων ἀποστάσει τῇ ἐν τοῖς ὕδασι, ἐκ τῆς μελαβαίνουσης τοῦ ἀδανυ μωφῆν ἔξω εἶναι ἐκ τῆς ἐν τοῖς ποταμοῖς ἐμυδίου, ἢ ἐξ ἐν τῇ δὲ οἰστῶ*: Some living creatures live first in moysture, and after that they change their shape and live out of it, as it falls out with Gnats about rivers, from which proceeds the Brees. But how that can be I know not: For of creatures that have wings, it is impossible that other winged creatures of a diverse form should be generated, as the diligent observer of Nature may easily gather. And so much of the Oxe-fly which the *Goths* call *Hestabryvis*: but the *English* have no name for it. [Wherein the Author seems to me to be mistaken, because it hath afforded it a very proper name as is abovesaid].

The Bee Fly.

The other *Tabanus* or *Afilus* is begotten in the utmost part of the combs, and exceeds in bignesse any Bee whatsoever; which, because he is so troublesome, not suffering the Bees to be at quiet (as the former would not suffer the catell) the Greeks have comprehended under the same name of *Oestrus*. The head of this Fly is of a bright bay colour, with a white streak running from his forehead to the nape of his neck, his shoulders and back of a dusky colour, in all parts else no way differing from the common sort of Flies.

He feeds not only on the juice of flowers and honey, but on the blood of beasts, which with great tediousnesse and pain he sucks out.

The second kinde of Tabanus.

Gnat like.

There is another Fly much of the same sort, with a head and body more inclining to green. His shoulders shine with greenesse, wings he hath two, whitish in the middle and outward parts, but are otherwise blackish or dunish. This only once *Pennius* saw it in *Hanworth* in the year 86. in the moneth of *August*. In the year 82. he found in *England* two other sorts of Flies like Gnats; one of which had a pretty big body, of yellow and red colour; it had two wings, the head very long, the tail reddish. The other also had a long head, long and slender shanks of a very sad black colour: the latter were longer than the former which he stretched at length when he flew and let hang down.

A Countrey-man there was that affirmed for certain, that out of their eggs (for he had observed them coupling together) came those worms that usually eat the leaves of trees.

Tabanus.

The Fly called in Latine *Tabanus*, is of the Greeks called *μύωψ*, by reason perchance of its stinging or pricking, for *μύωψ* signifies also a spur wherewith horses are pricked or spurred. The French call it *Tabon*; the Italians, *Tabano*; the Spaniard, *Tavano*; the Germans, *Braem*, *Ku-flyege*, *ross muck*; the Brabanters, *Rochleghebrem*; the Polonian, *Kirowia muka*; the English, a *Burrel-fly*, *Stowt*, and *Breeze*: and also of sticking and clinging, *Cleg* and *Clinger*. This *Calepine* more boldly then truly saith hath four wings. But with more judgement *Ælian* and others, say it hath but two silver white. The whole bulk or body is very long, divided into three principal parts, the head, shoulders, and the ventricle or belly, distinguished with five or six clefts or incisures, the whole body of a blackish white, in the mouth of it it carries a strong, long, and brown *Proboscis*; it hath six black feet, in all parts else representing much the Dog-fly. In the moneths of *July* and *August*, by reason of the extremity of heat they are most fierce, and do miserably handle Oxen and Horses and young catell, unless protected with fly-flaps, boughs of trees, or plants: which they follow by sent of their sweat, because they cannot reach them with their sight, being very weak sighted, from whence the infirmity of the eyes called purblindnesse is in Greek termed *μωμια*. They are generated saith *Pliny* of the worms that come out of the wood putrefied. Which some cunning men before they have wings did use to binde about the wrist of the left arm as a remedy against Quartain Agues. They suck out blood with such force and in so great abundance, that a friend of mine whom I dare believe told me, that his horse being



tyed to a tree, was by reason of the multitude of them, killed in lesse then six hours, they had drawn out so much blood that the spirits failing he fell down dead. By these things it is manifest, that the *Tabani* are of a different nature from the *Afili*, notwithstanding that most of the Greek and Latine Authors do seem to confound them and make them all one. Yea even *Gesner* himself in this very matter could not tell what to say in his book *de Quadrup.* and indeed unlesse it were only *Pierius* and my friend *Pennius* now deceased, no man as yet found the difference between them. *Ardoinus* is here desired to be censured in the first place, because he saith that both the *Tabanus* and *Afilus* have stings in their tails as the Wasps have: and secondly, because he makes them to have eight feet, whereas none of them in the world was ever known to have above six. Lastly, he reckons them in the classis or rank of Gnats, whereas the Gnat never bites in the heat of the day (as the *Afilus* and *Tabanus* do) but altogether in the night at what time they are very irksome indeed.

Next to these is another Fly shrewdly annoying cattel in the heat of the day, which *Pennius* calls *Curvicaudam*, very well in English a *Wringle-tail*, in regard that alwaies sitting upon the buttocks or belly of the beast, he bends his tail towards him with his sting started, that he may be ready to strike at pleasure, whensoever opportunity may offer it self. This Fly the English in their proper tongue call a *Whame* and a *Burrell-fly*, and it is scarce found any where else but in England. This kinde of Fly is almost like the Bee in shape and colour, only it is bigger in body. It doth not cleave to the flesh, nor suck blood as others do, but only stings with its tail, flying a long way after horses, and stinging them in their travel. Horses are naturally afraid of this Fly, whom upon the least touch they endeavour by what means possible with their tails, feet and mouths to drive away. Some are of a minde that these flies do not indeed use a sting, or prick, but with their tails they fasten their dung to the horses hair, from whence a while after come a number of very irksome Nits. But experience must prove that, for reason in a matter so improbable is silent. True it is they are very violent upon their prey, as being blinde both the *Tabanus* and the *Wringle-tail*, which may be the reason why they are so bold and fearless, as being secure of any danger. But especially the *Oestrus*, from whence those famous Poets of old were said to be *Oestro perciti*, stung with this furious Fly called *Oestrus*. *Plutarch* calls them *disganaequeirus*, *Gad-stricken*.

Those kinde of Flies that follow are more rare.

The first of which is very like the lesser Butterfly, with four silver wings full of blackish spots, all the body over adorned with silver streaks running athwart of it, the tail reddish or brownish, the head black, the shoulders of the same colour with the tail, the fore-yards are thin, black and short, the feet small and black; they are most commonly seen in hedges, especially in the morning. The second very little differing from the former, but that the body, sail-yards, legs and feet are of a brownish or dusky colour. The third species hath four wings: this hath longer wings than the two former, spotted with black spots, the head somewhat bigger, black, here and there marked with yellow spots; the two sail-yards thin and black, six whitish feet fastened to the more bulky breast, the shoulders are embroidered with yellowish white spots, overthwart the back are five streaks of a yellow colour; with a little spot or speck between each almost of the same colour; in the tail there are five red spondils, the end of which is forked. The fourth is not much unlike, but it hath silver wings, without spots, the sail-yards black and somewhat longer, the body is adorned with seven white lines athwart. I have seen also two Flies with tails like Scorpions. The first of them, as the former spoken of, hath silver wings, but somewhat lesse, with three crosse black lines towards the end, the head black, the breast, the feet and shoulders whitish: the rest of the body black, the tail hath five joynts as it were or partitions, three of which are of a pale red, the rest black, the end of the tail forked, the forks are black, and like the Scorpion turned up. The other almost like to it, but the very end of the tail is more thick, the fork that is in it more blunt, the head dunnish, the mouth somewhat long, each wing bedeckt with six black spots. There is also another sort of Fly that hath four wings, the body greenish, the four wings longer than the body, made as it were of melted silver, the nerves whereof are greenish, the sail-yards thin and black, eyes as yellow as gold, from whence it hath the name, and that not undeservedly of *Chrysopsis* a golden eye, slow in flight, of a very

LIII

strong



strong sent, which like the Moth it loseth with the life. A great frequenter of gardens and sitting on Elder : whether he come of a Caterpillar, as the Butterfly doth, or out of the worms of trees, I cannot tell. That most learned and courteous Gentleman *Joach. Camerarius* first shewed it to *Pennius*.

There are sundry sorts of Flies, of the Greeks called *πικρυαί*, in Latine, *Pilicanda*, *Seticanda*; in English *Hair-tails*, or *Bristle-tails*. For some of them have one, others two, other some yet three or four bristles in their tail : of which in order.

The first of these called *Henothrix* or *Unisera*, is a fly that hath a tail, the whole body is black except the middle or the back and belly that are red ; it hath two silver wings, the shoulders thick, with two little black sail-yards, and a long bristle shot forth of the tail of it. The figure of

this Fly did the abovesaid *Joachim* send to *Pennius*, withall attesting that it never offered to light upon any other herb but the chiefest *Ameos*. *Διστόρυγες*, are two Flies that have two hairs in the tails of them ; whereof some have bodies sharp or piked at the end, others more blunt. Of the former sort, two I have seen with four silver wings without spots, head and shoulders blackish, the rest of the body dunnish, bedecked with divers crosse lines of black. Both these had long and slender sail-yards, and the like in the tail, only somewhat longer, the body big and bulky. Those of two hairs or bristles are of five sorts : the

first, in all things like those with a hair, but that these are almost all over yellowish, it hath two very long bristles in the tail, one of which being stretcht out at length is like the tail of a Greyhound running after a Hare ; the other rivelled inward is like a spiral line. The second sort, is a kinde of long Fly, having four silver wings, yellowish feet, the body black, shoulders thick, two sail-yards long and slender, the belly toward the tail, bigger then the rest, out of which two short bristles do issue, turning upwards ; it lives in hedges. The third of these *Carolus Clusius* sent from *Vienna*, with a dusky dark coloured body, the wings large in a mixture of blew and silver colour, the tail acuminate or piked, out of which grow two bristles or plumes rather (as *Pennius* observes) of a Partridge colour speckled, with black and dunnish spots intermingled. The fourth kinde is of a round orbicular body, about an inch in length ; the head, shoulders and breast very black, the horns short, it hath six black feet fastned to the thick breast, the foremost shorter than the rest, the hindermost the longest : when she flies she puts her feet together and lets them hang down, it hath four darkish wings of a silver colour, her eyes black and shining, the utmost tip of her tail black, out of which peep two very short bristles from the shoulders downwards to the middle of the tail ; she is almost of a yellowish colour ; the tail is joyned to the shoulder as it were with a long thread : it runs very nimbly and as it were leaping ; her nest is under ground, she feeds upon small Flies and Caterpillars. The fifth and last sort of these, is by much the least, yet of the same form and figure, only it hath very bright silver wings ; the whole body to the tail is of a tawny or darkish red colour.

Of those that have three hairs or bristles there have but 5 sorts come to my notice. The first hath a body very long and black, the middle very red from black, with two black horns in the head, silver coloured wings, the very edge or extremity whereof is spotted with a blackish spot, the thighs or shanks reddish, in the tail it hath three long hairs or bristles, and flies very swiftly. The next is like to this, but lesse, all over black, longer than the former, thinner and slenderer, it hath silver wings also, the cornicles or horns all one with the former, it also thrusteth forth three long bristles at the tail, not so swift in flight by much as the former. There is another of this kinde all over whitish, but only the wings, which are spotted with four black spots ; the utmost of which are larger, the others shorter, which





or stretching them forth in manner of little horns. Such a one as this *Pennis* took notice of in the year 73.



so long as she flies not, stand bolt upright: she hath six feet, the four lesser of them fastened to her body, the two foremost are greater and black, coming as it were out of the neck, between the two black round eyes which standerth forth of the head come forth two black short horns; the body thin, round, long, about a fingers breadth; in the tail are to be seen three bristles as long as the body, the which when she flies she puts into the form of an exact triangle. In the moneths of *May* and *June* before and after rain she is to be seen; she flies ordinarily about rivers with some company with her, with whom she seems to sport her self by the way; she useth her forefeet sometimes to feel whether any thing lie in her way, extending

hath a very long body, two wings somewhat shorter then the body, the feet of a reddish yellow, the tail altogether as long as the body, seen only once of *Pennis* about *Greenhure* in *Kent*.

The Fly with four hairs represents the first of those with three hairs, only its tail is somewhat bigger at the latter end of it, the feet as also the horns black, the wings long, the outermost three times exceeding the innermost in bignesse, having a black spot in the middle, and in the tail four hairs or bristles.

To these are to be reckoned those Flies called in Latine, *Mulles*, *Pavones* and *Libella*, which the Greeks from the likeness of a fish of that name called *Ξαγαινα*. In English they are called *Adders*, *Boules*, *Dragon-flies*, and *Water-butterflies*; because they are seldome seen on land, but alwaies about waters, as rivers, or fens. The Italians call them *Cervetoni*; the Hollanders, *Romdoubt*: for the form or shape of their bodies they differ little or not at all, but only in colour; some of them have bodies two inches long, long and slender withal, in form of a pipe or cornet: and these consist of three parts; the head, breast, and the rest of the body which is in stead of a tail. The head with two great goggle eyes, of the same colour with the rest of the body, is made fast to a very short neck, to which the forefeet are joyned, all the rest being annexed to the breast. The hinder feet likewise are the longest, the better to lift up and stay their bodies. All of them have





have forked tails, and with these they couple, remaining long in the act of generation. Countrymen for the most part of them, are of opinion that these Flies are engendered out of the worms that grow from the water-bulrush putrefied; which if I should yield to be true, yet doth it not take away copulation, and putting forth of worms from their own bodies, whereby they might from time to time increase, and perpetuate their propagation. The lesser of them are very slow of flight, the greater very swift, and are only to be seen in heat of Summer. Of these we have observed three sorts or species: The greater, lesser, and least of all. The biggest of all, some of the English call *Brises*. Of which sort eight only have come to our view. The first greenish, the spots also in the neck and tops of the sides of a dark green, the wings silver coloured, they are swift and make great speed in their motion. He hath seven black lines athwart the back, and feeds upon flies like the Swallow. The second is like to this, but of a more dark hew. The third hath eyes like to pearls, silver wings, the hem or extremity whereof is stained with a dusky spot, the body is black, but very seldome yellowish on the back and belly; the tail black and forked, adorned as it were with two plumes. The fourth is of a muddy colour, having the sides divided as it were into six parts; near about the coming forth of the wing which are like silver, you may perceive a large black spot, distinguished in the middle with lines of mud colour, toward the end of the tail there appear four or five hairs or bristles. The fifth hath its head and tail gray, in manner of a Trident. The sixth is silver winged, with a black spot in the middle, the body all over black; the back and belly sometimes, but that seldome of muddish colour, the breast and

The greatest Libella.





The Medium.



The Smallest.



shoulders half black, hark yellow, under the end of the tail two hooked bristles, at the end of all five but very small. The seventh hath a head, neck, and shoulders of a dusky colour, the rest of the body red, procreated in *Pennins* study of a little worm that we never had seen before. The eighth shorter then the rest, with eyes like pearls, the body allover of a yellow colour, except where it is thwarted with cross streaks or lines, the tail seems as if the end were cut off, the but end thereof more broad, the extremities of its silver wings are darkned with a black spot, they are to be found most commonly amongst the corn.

The middle sort of the *Libella* do set

set forth Nature's elegance beyond the expression of Art. The first is of a most curious colour. The body blue or sky colour, the wings of bright violet colour, the space between the shoulders is adorned with four golden gems, set as it were in a blackish collet. The second hath the head and body gray, the wings whitish, which are beautified with gray lines drawn quite through them, in the middle they are of a purple colour. The third hath its head and body of a greenish colour, the lines of the wings are marked as it were with blood colour streaks, towards the edges or outmost parts like to a dark purple. The fourth seems to be all over of the same colour, to wit, of a dusky colour mixt with a pale green. The eyes of the fifth are blue, the head green, the whole body mixt of green and blue, except the wings, which are most accurately wrought with silver colour and black, in the middle shadowed with a dark purple. The sixth is all over green; yea and the wings themselves are of light green.

I have seen four of the least sort of the *Libella*. The first the body all over of a bright blue colour. The second red, the wings alike to both of them a silver colour. The third yellowish, but the tail more thick; the edges of the wings (as also all the lines that run along them) are red and marked with a blood colour spot. The fourth which is the least of all, hath a long spiny tail, a great head, blue eyes standing out with two little horns to guard them; the body somewhat long, slender, underneath greenish, above blackish, on the back it hath two greenish lines or streaks drawn along from the head to the rising of the wings, the tail bound together with five joints or knots, in the end whereof is a ring of bluish colour.

One there is of this number which killeth some of the other bigger very speedily: of a thin gray coloured body, and the wings alike coloured, and when he creeps into an apple, no hole can be seen where he went in: he feeds also upon seeds. This Fly *William Brewer* a learned man and an excellent naturalist sent to *Pennins*. There are found in the leaves of young Fennel Flies of an exceeding smallness, inasmuch as sometimes they are so little, that they are not able to be seen; they run and fly very swiftly, inasmuch that you would wonder how it were possible for nature to fasten feet and wings to such very exceeding small bodies.

Water Flies, of the Greeks called *ixior*, or *Lacustres*, as abiding in fenny places, are those that feed upon things that swim upon the surface of the water, and that live especially upon the water, as these and the like, *Phryganides*, *Macedonica*, *Tigurina*, *Aeschna*, *Lutea*, *Fusca*, &c. *Phryganides* comes from the little worm *Phryganium* (which in English is called *Cados worm*) living in the waters, and in the midst of *August* ascending to the top or superficies of the waters; it hath four wings of a brown colour, the body somewhat long, having two short horns, the tail forked, or rather bristles coming out of the tail. The form or figure of this Fly is various, in regard of the great variety of those little *Cados worms* whereof they come.

Among the *Macedonians* about the River *Austrum* which runs in the midst between *Beroza* and *Thessalonica*, there fly a kinde of Flies, which are not every where to be found, neither are they any way like other Flies, they are neither like the Bees, Wasps or Hornets, yet resemble all in something, in bignesse the Hornet, in colour the Wasp, in humming the Bee; in audacity and boldness all the rest of the Flies; the country people call them *inæques*, the Latines *Equisetiles*; these flying upon the surface of the waters become a prey to the fish that are in the river. The greater summer Water-fly is seen in *Helvetia* in the month of *May* (commonly cald *Tes glaffi*) as we have heard reported by a Gentleman, but which we leave to those of that Countrey to describe. The *Aeschna* so called, are a kinde of Water-fly of an ash colour, with four wings, six feet, near the tail having as it were many downy hairs. The Water-fly called *Lutea* is of a yellowish dun colour, it hath long wings, always standing bolt upright upon the shoulders so long as it flies, the eyes big and standing out of the head, the tail long and knotty, having two long hairs or bristles at the end of it; she is conversant alwaies about rivers, seldom elsewhere, especially after rain. There is another of a dun colour with four long wings, and long shanks, the body full of joints, two long horns it carries in the forehead, the head little, the eyes blackish and standing out of the head, the wings dun, but a little more bright then the rest of the body. For the most part found in woods adjoining to fens and standing waters. To conclude, I shall relate amongst the rarer sort of Flies, that of *Cardane*, as he himself describes it. Thus: I have said he a little creature like to a Beetle, of no unsavoury smell, soft, and the swiftest of all that ere I knew of Insects, it is of a dark yellow, not black, with six feet, and two very short thin wings not covering the tail; the tail is of the same figure and form with the head, inasmuch that you would think it had two heads; for as it hath a mouth in the upper part of the head, and two small cornicles there under the chin, so it hath two others also in the lower part longer then the creature it self, as many likewise in the tail, but these shorter then the two longest in the head; only the uppermost of those are longer and thicker then the lowermost. Which rare creature I wish I had seen with *Cardanus*, that I might have here added to this description the figure of it. There is also besides these a Water-fly, which men call from the length of the feet or shanks of it, *Tipatums*, *Macropedium*, *Pedonem*, *Gruinam*; called therefore in English a *Crane Fly*. Of these Flies are found four sorts. The first species hath long shanks like a wood Spider, the body almost ovall of a whitish ash colour, silver wings, black eyes sticking out, with two very short horns, the tail pointed or piked. It flies (much like the Ostrich) hopping with the feet, sometimes it flies in the air but not far nor long. So greedy after the light, that it often

oftentimes is burnt in the candle. In Autumn it is frequently seen in pastures and meadows. This of the male kinde. The female is almost alike, but somewhat more black, the end of the tail as it were bitten off; these are called in English *Shepherds*, in Latine *Opiliones*, because they are most often seen where sheep use to feed. The second sort of *Tipula* hath a great head, eyes standing out, four small horns, the body pleasantly various with the colours yellow and black interchangeably mixt. The third is almost like unto this, saving that the body being all yellow, is better set out with six or seven black spots; both the male and female have a three forked tail. The fourth species is very rare and curious, the head and especially the mouth forked, the shoulders swelling, the feet shorter, the body twice as thick as the rest; the back black, the belly and sides yellow, the tail black and picked. It lives in hedges in the Summer, and is seldome found in open fields. Those *Tipula* or *Crane-flies* afore-said do couple with their tails turned to gether, and so they fly; yet sometimes they turn again as it were to embrace one another.



CHAP. XII.

Of the use of Flies.

These little creatures so hateful to all men, are not yet to be contemned as being created of Almighty God for diverse and sundry uses. First of all, by these we are forewarned of the near approaches of foul weather and storms; secondly, they yeeld medicines for us when we are sick, and are food for divers other creatures, as well Birds as Fishes. They shew and set forth the Omnipotency of God, and execute his justice; they improve the diligence, and providential wisdom of men. All which shall appear in their places.

Prefaging of
weather.

As for their prefaging of weather: when the Flies bite harder then ordinary, making at the face and eyes of men, they foretell rain or wet weather: from whence *Politian* hath it.

*Sitiensq; cruoris
Musca redit, summosq; proboscide mordicat artus.*

English:

Thirsty for blood the Fly returns,
And with his sting the skin he burns.

Perhaps before rain they are most hungry, and therefore to assuage their hunger, do more diligently seek after their food. This also is to be observed, that a little before a showre or a storm comes, the Flies descend from the upper region of the air, to the lowest, and do fly as it were on the very surface of the earth. Moreover if you see them very busie about sweet meats, or unguents, you may know that it will presently be a showre. But if they be in all places many and numerous, and shall so continue long (if *Alexander Benedict.* and *Johannes Damascenus* say true) they foretel a plague or pestilence; because so many of them could not be bred of a little putrefaction of the air.

Many

Many waies doth nature also by Flies play with the fancies of men in dreams, if we may credit *Apomasaris* in his *Apotelesms*. For the *Indians*, *Persians*, and *Egyptians* do teach, that if Flies appear to us in our sleep, it doth signifie an Herald at Arms, or an approaching disease. If a General of an Army or a chief Commander dream that at such or such a place he should see a great company of Flies; in that very place, where ever it shall be, there he shall be in anguish and grief for his Souldiers that are slain, his Army routed, and the victory lost. If a mean or ordinary man dream the like, he shall fall into a violent Feaver, likely may cost him his life. If a man dream in his sleep that Flies went into his mouth or nostrils, he is to expect with great sorrow and grief imminent destruction from his enemies.

Nor do they only foretell storms, that shall fall out such daies, or such times of the year; but they do afford much matter for Medicine, and cure for diseases. For *Galen* out of *Sarannus*, *Asclepiades*, *Cleopatra*, and others; hath taken many Medicines against the disease called *Alopecia* or the Foxes evill; and he useth them either by themselves or mingled with other things. For so it is written in *Cleopatra's Book de Ornamentis*. Take five grains of the heads of Flies, bear and rub them on the head affected with this disease, and it will certainly cure it. *Asclepiades* used to take a great many Flies heads fresh pluckt from the body, and rub the part that was bare or bald with this disease, especially if they were exulcerated. For the blood of Flies (saith he) doth much help the parts that are exulcerated with Nitrous medicines; or are otherwise galled or fretted. *Sorannus* used to mix a pot full of whole Flies dried to powder, with *Alcyonium*, quick Brimstone, Gunpowder, sowes Gall, and other like things against the Fox-evill. Some adde to these Bears hair, roots of Reed, and Fern, and bark of Chestnut; and with which medicine they cure perfectly not only the Fox-evill, but whatever defluxion of hair, and the thinnesse thereof however contracted; the place affected being only first rubbed till it be red again, with fig-leaves. Others use the blood that runs out of the heads of Flies: other some apply the ashes of them ten daies together with the ashes of paper or nuts, so that the third part be the ashes of Flies. Some others do temper ashes of Flies with womens milk, or coleworts; some only with honey. *Pliny*. After the same manner, *Haly* and *Marcellus* burn the heads of Flies and mingle them with honey in stead of an oymment. *Brassavolus lib. de morbo Gallico* maketh use of both the blond and the ashes of Flies against the Foxes Evill. The like Medicine *Pliny* useth to procure hair on the eye-lids. Take of ashes of Flies and Mouse-dung of each alike mingled half a penny weight, add to it two sixth parts of *Stribium*, and with these and *Oesopus* or sheeps fat anoint the part. Some prescribe Flies with the roots of Docks for the Leprosie to be annointed withall. *Pliny* saith that there were some, that for the same cause did give 2 red Flies dead, in drink, but those that were very weak a fewer number. That Flies are very good for sundry diseases of the eyes, not only *Haly*, *Galen*, *Pliny*, and *Archigenes* have affirmed, but also *Neotericks* or later writers, especially for the Pin and web, Bleer-eye, squint-eye, and warts on the eye-lids. If the eyes be washed in the evening with water of ordinary Flies distilled in way of bath, for a moneths space, it will cure them of all spots or films. If the hair be often wet with it, it will grow exceedingly. But the Vessel must be buried in Autumn, and the Material distilled about Winter. With two drops of this water put into the ears, *Gesner* writes, the deafnesse of them will be cured; and this Medicine he saith he learned of a Jew. *Mutianus* which was thrice Consul, from observation, did hang a live Fly in a little linnen bag about his neck, wherewith the rhume or bloudshot of them was cured, as *Pliny* affirmeth.

Flies in an odde number being rubbed together are reported to be very good to cure a fellon on the ring finger. Bean Flies drank with vinegar do drive forth a horseleech sticking in the throat. *Haly Abbas*. The Fly *Napellaris* of the herb *Napellus* or Wolfebane so called, doth not only cure the poyson of that herb, but all other poyson whatsoever, as *Avicen* witnesseth, and *Julius Scaliger* confesseth: from whence this Antidote is made. Take round Birth-wort, Michridate of each two ounces, terra sigillata half an ounce, Flies of *Napellus* in number 18, juice of Citrons what may suffice, mingle them, make an Opiate. For (saith *Scaliger*) against the biting of the *Tarantula*, or any other venomous beast, or the poyson of Wolfebane there is no Antidote comparable to this. The same do *Gainerius*, and *Petrus Apponensis* teach us. Yea, moreover when as there is no Fly almost but will cause vomiting (as I shall make good out of *Arnoldus*) why may not all of them be thought preservatives against poyson? *Cardanus* in like manner commendeth the wormed Fly. But it is best learning of medicines by hands and eyes: *cardian de talis xepot is oupan didonaxid. i. e.* by known experience, lest while we affect unknown medicines we lose the use of those we know. He tels us that an oyl made of wood Flies was in great estimation; yet he telleth not us how to make or to use it. A Fly chewed and swallowed doth vehemently provoke vomiting. *Arnoldus*. I have heard of a certain man (saith *Gesner*) that was wont to take three or four Flies into his body, which gave him a very good stool. Take five grains of Broom-flowers, let them be put into an earthen pot, with butter here and there laid between them bed upon bed, with which the vessel may be filled, and being very well closed, let it be buried in horse dung, where the Sun useth to come, for the space of one year; at the years end you shall finde the Flies turned into an Unguent; the which afterwards are exceeding good for any grief whatsoever in any part of the body, as I have learned of a friend of very good credit. *Nonus* adviseth to take the bodies of great Flies when the heads are off, and rub'd between the fingers, and to anoint a small impostumate swelling therewith, for a special remedy. *Fortius* the Poet affirms, that

that there was a *German* maid which lived three years with eating of Flies. If cattel cannot urine, or the urine scald their genitals, put but a live Fly into them, and it will give them ease. *Colymbella*.

Neither do they serve for the health of men and cattel; but withall do seem to be created for food and sustenance of sundry sorts of creatures. For there are some kindes of Spiders which hunt after Flies and prey upon them. Swallows feed on Flies, and almost on them alone, as if they were to be supposed to be made only for them, inasmuch as without them the Swallow could not live: and that the reason why in fair weather they hunt after them aloft in the air, in rainy below near to the earth. *Pliny* affirms that the Bird called *Himantopus*, makes them his chiefeft food. There is a kinde of Duck called of the *Tigurini*, *Muggent* (as if you would say, the Duck that catcher Flies) like to the tame Duck in bignesse, which greedily snatches up the Flies swimming on the water and eats them.

The *Chamaleon* which some have reported, but falsly, to feed only on the air, feeds on Flies, which with his tongue six inches long, putting it forth suddenly and waving it to and fro, he hits unawares, drawes to him and devours them, as I have seen with mine own eyes in the year 1571. All those Birds called *Wagtails* (if I am not deceived) live upon Flies, but especially those that are whitish about the tails: in the *German* Tongue *rodten 'uogel*, but others call it more properly *Muggensticher*; in Greek, *μυγοπαρ*; in Latine, *Muscivorum*; in English, the *Fly-eater*, as being fed with nothing else, as *Beilinius* writeth. The bigger sort of *Zigaine*, so called, feed on Flies which they catch as they fly, as Swallows do, and never misse one, as I have taken a great deal of sport to behold. The worms of *Flesh-flies*, which we English call *Maggots* and *Gentles*, Fishes are very much taken with; Anglers use to fasten these to their hooks to catch *Roch*, *Perche*, *Carp*, and other fish withall, very good they are for that purpose especially if preserved in honey. *Trouts* are taken with the *ground* or *Gaipath* Fly, but chiefly with the *dung* Fly; so that the Anglers use to fasten one or two of them to their hook, and with a sporting, or rather cunning snatching back of their Line, do invite the *Trouts* more greedily to bite, and the bait being swallowed down to hang the surer. Others put as many of those flies upon their hooks as they will hold, and plunge them quite down to the bottome, especially where they know the greater *Trouts* use to haunt, who are very desirous of the bait so laid before them, and by the their greedinesse become a prey, and lose their lives; as *William Bruer* informs me. The Fly called *Phryganium* (in English, the *Cados* Fly) serves for the like use, as also the Fly which usually sits upon mans ordure. But every moneth must have his several fly, for that which is for one moneth is not for another; the which the Fishers very well know, who in defect of the natural Fly do substitute artificial Flies made of wool, feathers, or divers kinde of filken colours, with which they couzen and deceive the Fish. Only you must take heed that as soon as ever they bite, you pull your line to you, lest the Fish refusing the unfavoury bait get away. In the River *Astrum* there swim fish of divers colours feeding upon the native Fly that flies on the top of the water, which when the fishermen perceived, they began to catch of those kinde of Flies, and fasten them on their hooks. Now these Flies it seemeth as soon as ever they are touched lose their native colour, and so become altogether unuseful to fish withal. Wherefore they are fain to use artificial ones made according to their shape and colour (as *Alian* reports). They add also to the purple wool, and divers coloured, made into the shape of that Fly, two cocks feathers of wax colour, and so exactly resemble the natural Fly. From whence we conclude this art of making Flies to be very ancient, and derived to us by long tract of time; however we have some bold bragging hookmen at this day that ascribe it to their own invention. Nor may we wonder that fishes and fishermen do so lie in wait to catch Flies; when as *Domitian* the Emperor thought it a work not unbeseeming *Caesar* himself; who as *Suetonius* saith of him, with an iron pointed instrument stab'd all the Flies in his Chamber to the wals, as they stuck upon them, and would not leave so much as one; inasmuch that when it was asked by any who was within with *Caesar*, the servants answered, *Ne musca quidem*, no not so much as a Fly.

But how strongly do those infirm creatures demonstrate the great power of God? For consider but the least Fly that is, and observe how in so little a body the most high God hath curiously fitted feet, wings, eyes, snout, and other parts, which yet are lesse then the least threed. How doth he out-fly a Fly of his own name ten times bigger then himself? doth he not excell all other Flies in running? doth he not pierce deeper with his snout, and draws out whole vessels of wine? The *Elephant*, that great monster of creatures, is often vexed and molested with Flies; and that they are able to tame the Lions, *Aesop* shewes in his elegant Fable. The Horse, and Bear are not able to endure their biting, much lesse then can the Sheep, and Asses, unlesse humane prudence came in for their aid, and did prevail against them. Hence came the invention of that which some make of Leather, rushes, or bristles which we call a *Fly-flap*: and that orbicular fan fastened to a Longstick made of the most choice Peacocks feathers, of which *Propertius* of old, makes mention in this Distich:

*Lambere que turpes prohibet tua prandia Muscas,
Alitis eximia cauda superba fuit.*

That

That is to say,

*That which forbids the nasty Fly thy dish to lick,
Is Peacocks feathers fasten'd to a stick.*

The Indians and Germans make these, the one of Oxes, the other of Foxes tails. Some make them of small willow twigs, others after another manner: the fashion whereof, *Alian, Vegetius, Ovid, Grapaldus* do exactly describe. Moreover, whereas the rugged skin of the Elephant is instead of tail, mane, hair, (to speak in *Plinies* language) neither hath he any bristles to cover him, or tail to guard him, therefore men cover him all over with linnen or silk, the better to free him from the irksomnesse of the Flies, and to keep him safe that they may not come at his skin.

That Oxen and cattel be not annoyed with Flies, anoint them with oyl fryed in a frying-pan, or with Lions grease, and Flies will not settle on them. The same will *Origanum* or wilde *Marjoram* effect, if rubbed till it be limber and spread upon them. If you anoint the hairs with the juice of the leaves of a gourd, you would not a little wonder how it will free them from Flies; this I have oftentimes made use of with profit. *Selardanus*, Bay-berries being made into a very small powder and boyled with oyl, have the same virtue, if they be anointed with them; as also the drivel of foam of Oxen and Horses. *Africanus*.

Oftentimes Flies get into the wounds and ulcers of cattel, so that by reason of the worms which they breed, there is added much malignity. First of all therefore, those ulcers being made clean, *Columella* applies an ointment made of Pitch, old Oyl, and Bacon grease, both within and without; afterwards he applies Whey wingled with Ashes. Almost all the Summer long the ears of dogs are so exulcerated with Flies, that they often lose them quite. The which that it might be helped, they should be anointed with oyl.

The Fly *Ophioborus* (from eating or devouring of Serpents) gets close, saith *Actius*, between the scales of the Serpent *Dryinam* especially, insomuch that at length it kills him outright; this Fly from the colour of its wings is called of *Hesychius* *χαλκημυία*, or the *Brazen fly*, because it resembles the colour of brasle, it feeds on black Beetles; and by biting hegets in the Serpent extremity of heat, after that unquenchable thirst, and death followes: having fed upon the carcases of these Serpents, if afterwards they happen to bite a man, the wound is incurable and deadly.

The Flies called *Mexdivora* or *Dung-flies* are of divers sorts; one is like the *Flesh-fly* but bigger, his eyes of a darkish red, shoulders black, in which there is a circle somewhat long and whitish; the back black drawn over with crosse lines or streaks. The wings silver colour, longer then the body; most commonly they are seen about mens excrements, seldome elsewhere. There is also a Fly green all over, so resplendent and glittering as if it were transparent, the head dunnish, silver wings, frequently in the woods, and most commonly about dung; in bignesse equal to the common or ordinary sort of Flies. Whether it be that which *Silvaticus* calls *Giacucul*, I know not. I have light upon another Fly called *καρσος*, *Dung-eater*, lesse then the green Fly, the body dun, the head of a full red, with a line along the middle of it. I have another the body rough, yellowish, the eyes black standing out; the shoulders and back black, curiously spotted, the tail ash-colour. Another fly there is whose shoulders are of a pale red, somewhat towards a Saffron colour; it hath two horns longer then the rest, silver wings covering all the body; the head black, foursquare, and small, very frequently seen about horse-dung. To conclude about dunghills (from whence also it is probable they are generated) there are certain yellowish Flies, the body somewhat longer than the rest, and bunching up; of whose generation we have before made mention. Also I saw another rare Fly, not every where to be met withal, that feeds on a mudwall made with mud and putrefied materials, it was black all over, only it had silver wings, and in the shoulders it hath four white spots, in the rest of the body eight, i. e. on each side four; the eyes white, the frontlet marked as it were with a white asterisk or little star; out of which shoot out two black horns and long, it hath also upon the top of the thigh or shank a little white spot sprinkled up and down. This Fly I keep, though dead, in a box for the rarity of it. *Bombilophagus*, is a Fly, montanous, big, very black, the body rough, the eyes somewhat long, great, the head of a bright red; for his prey he falls fiercely on the Humble-bee, and getting the better of him by flight, nimbly gets upon his back, and sticking close to him, doth so extremely bite, that he throwes him headlong to the ground, sucks out what honey he findes, and goeth away conqueror. In the top of *Cartmel* hills *Penninus* affirms in his papers, that he saw it as long as the fight lasted; but the fortune of the battle falling to the Flies, the Humble-bees were put to the worst and slain. And thus much of the *Zoophagi* or the Flies that live upon living Creatures.

The *Azoophagi* so called, are those that make their living out of creatures without life, and those are either on the land, or in the water: of the land Flies, some feed only on the earth and the dew of it; others of plants, herbs, and flowers growing thereon. The one I call (in a term of my own) *Ground-suckers*, *Humisuga*; the other, *Heare-eaters*, *Herbivora*. The *Humisuga* or *Ground-sucker*, hath a dun coloured body, in the head toward the mouth, a whitish shining spot, the belly and feet black, at the coming forth of the wings on both sides a white spot, the back grey, in the shoulders according to the length of them four sullied white lines, the wings silver, and (if they be put into the water) shining like the glo-worm: it is found in foot-paths, and

Mole-

Mole-heaps newly turned up; for it loves the ground that is made plain and smooth with treading on, and therefore called in English the *Gray-path Fly*: it seldome comes upon flowers, especially at what time the Mole casts up fresh earth, of the juice whereof it is sustained.

Of the *Herbivora* or those that feed on herbs or flowers there are divers sorts or species; whereof three are like the Bee termed of *Lucian* *σαλάνης*, military or war flies. In regard they are bigger, lustier, and stronger, very specious to look on, very gallantly set out with two silver wings. The first and chief of these hath a blackish head, the middle of the back being cut crosswise with two overthwart lines, the end of the tail black: the body otherwise mud colour. The second not much unlike, the head blackish, the shoulders according to the length of them drawn with three yellow and black lines, the rest of the body marked alike and with the same colours. The third and least of these, the shoulders are rough and yellow, the head red, the rest of the body is divided with four yellow and four black lines going across it. The bodies of all of them do glitter, and as if they had nothing in them are transparent. They are conversant in gardens, sucking the juice of the flowers. *Lucian* describes these military flies thus: There are a kinde of Fly which some call Military, others Dog-flies, that make a very harsh and shrill noise, and fly exceeding swiftly. These are very long lived, and continue all the winter without meat, especially when drawn together, and fastened to ridges and tops of houses.

In whom this is most worthy of admiration, that both of them do the naturall office both of male and female, like the Son of *Mercury* and *Venus*, who was of a mixt nature or *Hermophrodite*.

Much like to these is there another Fly called *Apiaria*, of a shining black, having two wings, gathering wax, and fastening the juice that he hath gathered from the flowers to his hinder legs, as the Bee doth: He comes abroad in Autumn, and is seldome seen at any other time. Whether this be that which *Arist.* calls *Sirenis*; it differs certainly in the number of wings only, for that he makes to have four wings, whereas Nature hath afforded this but two.

There are other sorts of Flies, that devour herbs and flowers, that are not like Bees, to wit, the *Struthiopteri*, *Eninopteri*, and *Chelidonii*, because it is like to the Swallow. Of the *Struthiopteri*, I have seen three sorts. The first whereof is tender and soft, six footed, with two wings, the belly longer then ordinary, sending forth from the head a little above the eyes two feathers like Ostriches feathers, as it were horns of a downy softnesse, as soft as any feathers whatsoever; crump shouldered, all the rest of the body white, longer then the wings which are black. The second is of the same colour, whitish, the head of a dusky colour; otherwise it differeth little or nothing at all from the former. The third is all alike, only the horns are not so soft and downy; the tail is white, the body long, with five white lines going athwart it, the feet long, marked with black and white colours: as it goeth it listeth up the tail a little, and softly claps his two transparent wings together. These three species do appear in the Spring time with the first, in gardens, hedges and shady places very frequently before and after rain.

The *Erinopteros* is a fly all over white or rather silver colour, small and every where downy; inasmuch as when it sits upon a flower, if you look not hard upon it, you would think it were a feather; the wings of it are divided, the feathers being severed one from the other almost like Birds wings. *Pennius* received one of these painted, from *Edmund Knivet*: afterwards he often saw them in hedges, and places set with privet.

The Fly called *Chelidonius*, is swifter of wing then all the rest, sides, tail, head, brown and hairy, the eyes black and hanging out, the bill or rather the nose picked, out of the top of which start out two horns; the top of the shoulders as also the back black, two silver wings, the forepart whereof do answer to the blacknesse of the feet: sometimes it sits in one place for a great while together, as if it were immovable, but as soon as you come near it, its out of your sight before you can say, What's this? and will not yeeld a jot to the Swallow (from whom it hath its name) for swiftnesse of flight. *Pennius* received another flower-Fly of the learned *Carolus Clusius*, black, having two silver wings, two dainty white eyes in the back, having seven yellow spots, in the midst whereof is to be discerned a speck of black. There are Flies that are found in beans, of sundry colours, but especially of a pale purple, which I conceive do come of the smal worms called *Mida*. For when they are gone (which is in the midst of Summer) suddenly there comes forth a great number of those Flies swarming amongst the Beans. The Fly of *Napellus* I have not seen, but those that come out of those black grains that stick to the stalk of the wormwood, much less than Millet seed, more black than any Moor, only famous for their wonderful smalnesse.

There is a certain Fly called *ephuseus*, very rare and wonderful, whether you respect the form or the shortnesse of its life. It hath many names: *Ælian* calleth it *ephuseus*; *Hesychius*, *μωήμυς*; of others it is called *μωήμυς*; in Latine, *Diaria*: it moves with four wings and as many feet; for that it hath not peculiar to it in regard of the shortnesse of its life only (saith the Philosopher) but also as it is a four footed creature, and a flying creature. It comes forth with the Sun, groweth, flourisheth, languisheth, and dieth the same day with the Sun setting. In the time of the Summer Solstice, these diary creatures break forth out of certain husks of putrefied grapes, which husks (or such as seem to be so) whether they are a kinde of *Aurelia* proceeding from some kinde of canker-worms living in the water, it is not easie to shew; for in that particular the Philosopher is silent, from whom most of this story is gathered. *Pliny* calls them thin membranes; *Aristot.* small bottles, and saith they are common to be seen in the River *Hippare*, by the *Cimmerian Bosphorus* of *Pontus*. They live a life both short and sweet, for they live not beyond the space of a natural

natural day, and in the evening they put an end as to their lives, so to their miseries. In the mean while they are sustained and kept alive with their own radical moisture, neither are beholding either to air or earth; hence we may gather the length of their life, yea rather admire and wish for it. These Insects *Cicero* speaks of in the first of his *Tuscul. Questions*: these also *Matthias Michoides* in his 2. *Book de Sarmatia Europea* describes in these words, You may take notice (saith he) that in the Rivers of *Russia* and *Lituania*, especially in *Boristhenes* and *Borus*, in the Summer there are a great company of the Flies called *Ephemer*, or Day Flies: they are Worms and Flies both, some have four, others six wings; in the morning they run upon their feet over the water, about noon they fly about the banks, the sun setting, as many as were bred that day dye in the self-same day. Which description doth much differ from *Aristotles* History of them, first because in the morning it is a creeping worm, then about noon a fly altogether, besides that he giveth to some six wings contrary to the minde of *Arist.* *Jul. Scaliger* in his learned *Exoterick Exercitationes* against *Cardanus*, describes this Fly after this manner: I have observed a kinde of Fly frequenting *Sarca*, and the Lake of *Bennacum*, called *Ephemerus*, in the evening, but never any in the morning; being taken it lived only a night: it hath four very long wings, how many feet I know not; but if it have six (for I do not remember how many it hath) it sufficeth: it hath a head like a Fly, great eyes, the snout or beak rolled up together, the belly large, the tail exceeding long, and full of joynts, in the end forked, in some three forked, of colour a darkish yellow in the bigger sort, in the lesser of a brown or dunnish, very specious. The *Taurini* call this insect *Monietta*, as they would say *Monachella*. The *Adriatick* about *Meranum* and *Tergeste*, call it *Cazotulum*; of my Countreymen it is called *Sitivolus*, i. e. *Sagitella*. *Alian lib. 2. de Animal. c. 4.* sets forth another kinde of these Insects, such as are bred of sowre wine Lees, which when the vessell is opened come forth, and the same day, for nature hath given them a beginning of life, but in regard of the many miseries to which it is incident, quickly freeth them of it, before they can be sensible of their own, or any others unhappiness. But yet what these Flies of which *Alian* speaketh be, unless they be those that we call *Bibiones*, I know not: for that our Vintners know of no other bred in their cask.

But *Scaliger's Ephemerus*, I should rather have reckoned amongst the Flies called *manesupres*, had not he himself referred it to this Classis. I shall not think it much also to speak of *Pennius* his *Triemerus*, or a Fly living three daies, for the likenesse of the one with the other, that so the mindes of the studious may be filled with variety and rarity. It is of body very long, and somewhat like a Butterfly, the head little and yellowish, the eyes great, black, standing out of the head, the *promuscis* or beak winding in; of the colour of yellow mulleins, with which it sucketh dew from the flowers; two black cornicles fastened a little above the eyes, the back and belly blewish, the end of the tail dunnish; it hath only four legs, the hindmost whereof are yellowish, the edges of the foremost black, it hath as many wings as feet, the outermost whereof are pale, wan, the utmost borders of them being of a dark yellow, the innermost of a brightish yellow. The outer wings when they are closed together for to cover the body, they are so contiguous, that you can hardly, yea very hardly perceive where they touch; it flies heavily, and continues but a while in flight, within three daies it expires, it lives amongst Mallows and Nettles, this was found at *Peterborough* in England in the year 82. witnessed by very honest men and without exception. Thus *Pennius*.

In flowers, or rather the buds of the flower called white Bets, there is a kinde of Fly that eats the flowers, very small, I know not whether bred there, or coming thither from some other place. It seems they abide there for warmth sake and feeding. *Pennius* saith he was informed of this by his most learned friend Dr. *Brown*. I thought good to place the Fly *Bibio* in this number, because it is nourished by Wine, i. e. the clear juice of the grape (of which also it is bred). In the Illyrian Tongre called *Vitis rebate*; by the Germans, *Wein Worme*; in the English, *Wine Fly*. *Cardanus* calls it *Muscilio*; *Scaliger* not amisse, *Voluceffam*, and *Vinulam*; for it flies into cellars often, cares for nothing but wine. If you take it and look upon it, you would think it had no snout or beak at all, and yet it is reported that they will strike through a Cask made of inch board, insomuch that the wine sometime runneth all out. It may be *Grapalus* meaneth these, when he writeth thus: The *Muscilla*, *Muscule*, *Musciones*, Flies bred in Autumn in the mother of Wine, and soiling the Wine-cups, do not live so long (and that deservedly) as to come upon the table in the winter. In the West Countrey in a Town called *Tanton*, in the fruit of an Apple tree called *Velin*, in the Summer being rotten to the Core, there is found a glistering fly of a green colour; which when the Apple is cut in twain flies out, and seemeth to be bred there of some kinde of worm that is in it.

The wounds made by any of these Flies, must be anointed with bitter Almonds bruised, or Remedies against Fly-bitings, Walnuts; when ulcers are made, it is fit to pour on liquid Pitch boyled with Hogs-grease. Those things that kill and drive away the Tyke-flies called *Ricini*, for the most part, kill and drive away the Dog-flies. *Columella*.

The Fly also by his boldnesse and saucinesse, hath taught men how to provide remedies against them; for whereas both at home and abroad, every where they were so troublesome, that nothing could be so safely kept by the Cook, but presently they would be at it and spoil it, yea all kinde of meats whatsoever, they now use to strew or stick up in their houses, or boyl and mingle with such kinde of things as Flies love, Nigella seed, Elder, Lawrel, Coriander, Hellebore, Buglosse, Borage, Sage, Beets, Loose-strife, Origanum, Basil royal, Henbane, Licebane, Balm, &c.

shrub having a flower like a Rose, Pepper, Ferula, Cockle, Libbards-bane; some give them Orpiment powdered with Milk or sweet Wine, and sprinkle it about. *Rhasis* writeth that Crocodile Broth chafeth away Flies; who also commends the perfume of yellow Arsenick, with Olibanum, perfume of Vitriol, writing Ink tempered with water wherein Wormwood hath been washed keeps the flies from the letters. *Plin.* The seed of Henbane, black Ellebore, and the Froth of Quicksilver with Barly flower beaten and kneaded, and made into little morsels with Butter or Grease, and smeared with a little honey, and so cast to the flies kills them. *Actius.* The gall of a Hare mingled with milk, or boyled in water, and sprinkled about the house will chase away all the flies. *Anonymus.* Flies are destroyed with the smell of Wine distilled with the herb Balm. *Lullus.* If you would gather flies together into one place, cast Rhododaphne well bruised into a ditch; the juice of the herb Ferula sprinkled worketh the same effect. *Actius.* Bury the tail of a Wolf in the house, and the flies will not come into it. *Rhasis, Avicen, Albertus.* Boors grease and Rosin melted, entangles them, Oyl chokes them, Verdigrease kills them outright. If you anoint any thing with Cassia beaten in oyl, it will be safe from flies. There is found in my Countrey (saith *Petrus Cressentius*) a kinde of Toadstool or Mushrome, broad and thick, reddish about the top, which sendeth forth certain knobs or little bunches, some broken, some whole; it is called the *Flies Mushrome*, because when it is made into a pulstels with milk, it destroyeth the flies. If a man hold in his hand the stone *Heraclites*, or the touchstone, although he were dawbed all over with honey, yet will not the flies come at him, & by this means you may know whether the touchstone be true or no. *Actius.* They write that the K. of *Cambayes* son was brought up by poyson, who when he came to years, was all over so venomous, that flies at once sucking were swoln to death. *Scaliger.* If the fly get into one eye you may shut the other hard and it helpeth. *Aphrodisius in Problem.* If Camels chance to be stung by the *Tabanus* or *Afilus* (a kinde of Fly so called) as it often cometh to passe in *Arabia*, anoint them with Whales greate and all sorts of fish, and they will presently be gone. *Plin. Solon in Geoponicis*, biddeth to sprinkle cattel with the decoction of Bay-berries; and both these flies through a kinde of natural antipathy depart forthwith. If cattel be already stung with the *Afilus Fly*, anoint them with Ceruse and water. The *Tabani* will die (saith *Ponzettus*) when you set before them Oyl of the decoction of land Crocodiles called *Scienci*, bruised, with Hogs seam & the flour of soot. Moreover let cattel be led to pasture in the evening, the stars guiding them, in the day time let them be kept in folds with boughs laid under them, that they may lye the more easily and quietly. *Virgil.* Or else let them be brought to the sides of thick woods where these flies by reason of the dulnesse of their sight cannot fly so freely. Sundry kinde of remedies against flies *Ruellius* upon *Hippocrates*, as also *Apollonius* and *Brixius* have prescribed more remedies against flies.

Now after what manner Flies do execute the Justice of God, let us briefly set down. No Age but will speak of that famous Army of Flies, with which that great Lord of Hosts of heaven and earth did of old correct the fury of *Pharaoh*, and of the *Egyptians*, being joyned with hardnesse of hart; and yet the wicked Hypocrite did not come to himself, but wallowing still in the mire of sin without any sense, did afterwards invite greater and more grievous judgements to fall upon him. And that proud young gallant, who would needs ride to heaven upon his winged steed, was dismounted and cast down by the Fly called *Oestrus*. *Hercules* also, although exceeding in strength, the Poets inform, that he was almost vanquished by flies. In the time of K. *Rivallus*, when as corruption of manners, and guilt had infected *Britany*, there came down from heaven showres of blood, and those being dried away, did produce swarms of poysoned Flies, who if they did but once bite any man he presently died, as our Annals report. *Nicolaus Albanopolitanus* an English man, being elected Pope in the year 1154. called by the name of *Hadrian* the fourth, was choaked with a Fly flying into his mouth. *Urspergensis.* Others say that he was killed with drinking a draught of water in which a fly was drowned: and that by the just judgement of God, who excommunicated *Frederick Cesars* (whose surname was *Barbarossa*, or *Enobarba*) and did incense all the Princes of *Italy* against him. *Nauclerus* out of *Johannes Cremonensis*. An ancient writer reports also, that the Army of *Julian* the *Apostate* was grievously infested with mighty swarms of flies; and *Grillus* saith that the *Megarenses* were by them driven from their habitation. In the year 1348. great numbers of flies dropping out of the air, did cause in the Eastern Countreys incredible noisomnesse and putrefaction; upon which followed such a Plague among the people, that scarce the tenth man among them was left alive. In the year 1091, wonderful store of strange flies did fly up and down many Countreys, who did sundry waies hurt the grasse, trees, cattel, and men also. *Cranzins.* In the year 1143. a sort of fly about the bignesse of the common sort of flies, only of somewhat a longer body, did so fill the air, that for many miles together the Sun could not be seen, which were also very troublesome. *Urspergensis.* In the year 1285. *Charles* King of *France* leading an Army into *Spain*, and making war with *Peter* King of *Aragon*, an Army of huge flies of divers colours set upon the *French*, and slew them with their beaks, as it had been with swords. *Marineus Siculus* l. 11. de *Hisp. Reg.* In the year 1578. about the middle of *August*, upon the top of the Temple of *Brumbium*, there fate every year a swarm of flies which made such a noise with their wings as if they would throw down the roof: *Timothy Bright* told this to *Pennius*, a Physician, a man both learned and vertuous, and of no small note with us. Hithet may be referred that which *Strabo* reports, lib. *Georg.* 3. That amongst the *Romans* a Plague did often happen by reason of them, insomuch that they were faine to hire men of purpose to catch them, who were payed according to the quantity more or lesse that they caught.

caught. But how greatly they annoy the inhabitants of *Africk*, *Apulia*, *Spain*, *Italy*, and the *West-Indies*, how grievously they sting and wound the *Carthaginians*, and the inhabitants of *Hispaniola*, besides *Oviedus*, let those Englishmen speak who accompanied that flower of Knighthood, and Maul of the *Spanish* pride, *Francis Drake*. As for those things which *Apollonius*, *Fulgensius* and *Pliny*, fabulously and superstitiously relate concerning Flies, I thought them unworthy of this place; and therefore those flies called *Pisatides*, *Cypria*, *Eliades*, *Actea*, and the rest of meer invention I pass by. It shall not be from the matter to tax in brief the madnesse of the ancient Gentiles, that we may thereby be taught to lift up our eyes to the true *ἀμύσιον*, the God that doth indeed keep flies away from us. It is said of *Hercules* in performing divine Worship, whereas he was almost killed by the Flies, that he offered sacrifice to *Jupiter*, called *ἀμύσιος*, or the Fly-way-driver, by which means they were presently dispatcht into the River *Alpheus*, from whence he was afterwards called by the name of *Muscarinus* or Fly-killer.

The *Eleans* did invoke *Myagrus* and *Myades*, that multitude of Flies might not cause a plague amongst them. *Pliny*. He relates also how the *Cyrenaicks* were wont to worship *Achor* the god of Flies, that by his means they might be secured from being troubled with them. *Pliny* more truly might have read this name *Acaron*, or *Ishekron*, in stead of *Achor*, if he had heard of the Town *Acaron* where *Bahal-zebub*, i. e. the god of Flies, that famous Idol used to be worshipped. *Urspergensis* saith that the Devil did very frequently appear in form of a Fly; whence it was that some of the Heathens called their familiar spirit *Musca* or Fly: perchance alluding to that of *Plautus*:

Hic pol musca est, mi pater,

Sive profanum, sive publicum, nil clam illum haberi potest:

Quin adsit ibi illico & rem omnem tenet.

This man O my Father is a Fly, nothing can be concealed from him, be it secret or publick, he is presently there, and knowes all the matter.

But away with those false and filthy gods which the Greeks therefore called *τυροδαιμονας*, because they did serve for bugbears perhaps for children, and ignorant and heathenish people, which we that are Christians, and professe the true Creator of all things, ought not at all to regard.

There is also said to be another use of flies. For *Plutarch* in his *Artaxerxes* relates that it was a law amongst a certain people, that whosoever should be so bold as to laugh at and deride their Lawes and constitutions of state, was bound for twenty daies together in an open chest naked, all besmeared with honey and milk, and so became a prey to the Flies and Bees, afterward when the daies were expired he was put into a womans habit, and thrown headlong down a mountain: which place of *Plutarch* (by the Translators leave) I think should be interpreted not *Ciphone vinculus*, but *unctus Cippi*, anointed with sweet smelling oyntment. Of which kinde of punishment also *Suidas* makes mention in his *Epicurus*. There was likewise for greater offenders, a punishment of Boats, so called. For that he that was convict of high Treason, was clapt between two Boats with his head, hands and feet hanging out: for his drink he had milk and honey powred down his throat, with which also his head and hands were sprinkled, then being set against the Sun, he drew to him abundance of stinging flies, and within being full of their worms, he putrefied by little and little, and so died. Which kinde of examples of severity as the Ancients shewed to the guilty and criminous offenders; so on the other side the *Spaniards* in the *Indies*, use to drive numbers of the Innocents out of their houses, as the custome is among them, naked, all bedaubed with honey, and expose them in open air to the biting of most cruel flies. But for these things let *Nemesis* answer, who is at the back of cruel miscreants, yea may be said every moment to be present with them.

To conclude; the last use of Flies (and that not to be contemned neither) appears to be this, that whereas none of them passe a Summer, yet some of them do not live out a short day, we should by them be put in minde of our own frailty, and of the uncertainty of this vanishing life; the which although preserved with all the dainty food that can be got, with the softest raiment, and all the best waies and means that may be for a short space, yet when it seems most to flourish, it on a sudden declines and scarce with the fly holds out an Autumn, much lesse a Winter; we are in *Pindars* account but *ἐπιφύεσι*, *Daiesmen*, i. e. of a daies continuance, and as the dream of a shadow. And with the flies, short liv'd, yea shorter liv'd then they, for the most short lived of them liveth a day, whereas we have young children that survive not sometimes the fourth part of an hour. Away then thou Tyrant whoever thou art, make lawes as thou pleasest, persecute the godly, add impudence to thy strength, trouble and confound all things, give thy self up to all abominable and filthy lusts; yet at length *Jupiter* shall scare away these flies, and after thou art dead exercise thee with variety of torments.

CHAP. XIII.

Of Gnats.

THE Gnat is called in Hebrew Arabick, *Heagi*; in Italian, *Zenzala*, *zinzala*, *sanlara*, *sanlara*; in Germane, *mock*, *m' n' ucke schnack*, *stinger*, *braem*; in Flanders, *Mesien*; in Polony, *Komer*, *Welchicomor*; in Muscovy, *Coomor*; in Spanish, *Moxquite* & *mosquito*, whence our seamen call it a *Muschite*; in French, if it be lesser, *Moncheron*, if greater, *Bordella*; in English, if bigger, a *Gnat*, if lesser, *Midges*; in Latine, *Culex*, perchance from its sting as *Isidor* saith, or from the word *culeum*, which signifies the same with *corium* a skin. But if I might be bold to give the Etymologie, I should rather read the word *cuticem*, not *culicem*, a skin fly, because it most affects that: whence by way of Hieroglyphick it signifies a *Letcher*; because as the Gnat covets the fairest skin, and strikes till blood come forth, so doth the Letcher: which *Plautus* seems to intimate, when as the Parasite, if I am not deceived, takes up an old fornicator for kissing his mistress too hard after this manner: *Eho tu nihili, cane culex, &c.* What, art thou not ashamed thou gray-headed Gnat? I can scarce forbear to tell thee thine own.

The Greeks have no general word that comprehends all kinds of Gnats; as on the other side the Latines want words for particular Gnats, with which the Greeks abound. Of the Greek words, *κέρως* seems to be most comprehensive, whence the *Oetians* worshipt *Hercules* by the name of *Cenopius*, because he was thought to have driven all the Gnats out of their Countrey. The same *Alexandrinus* witnesseth that *Apollo* was called in *Attica* *Culicaris*. The *Bæotians* worshipt their god by the name of *Apollo Parnopius*, because he drove away their Gnats called in their language, *πρόπιος*, so *Pausanias*. But since the Greeks have one herb they call *κωλίζα*, i. e. *Culicularia* or Gnatbane, a remedy against all sorts of gnats, *κέρως* doth indeed seem to be the most general word. That is evident by the network coverlid spread on beds, taken from the Greeks which they call *κωλπιον*, and we also at this day name not much unlike, a canopy, a thing to catch all manner of Gnats.

The Gnat seems to be a kinde of Fly, yet as flies love sweet things, Gnats love things fowre and tart. The Flies do couple, the Gnats do not. They are most troublesome in the day time, these in the night, they make a kinde of a dull humming noise, these sing shrill, loud and pleasantly.

The Gnat hath two wings, for the bigness of his body great, coming forth of his crompt shoulders, he hath six long crooked scrambling legs going in and out, growing from his prominent square breast, with which as *Arist.* saith, they with the more ease lift up their bodies and go the better; he hath a very long body, as also a snout or *proboscis* three times as long as the Flies have, with the sharp point whereof he breaks through the skin, and with the hollownes of his trunk he sucks blood, which he makes use of in stead of a mouth and a tongue. *Pliny*. He makes a terrible found and great, for the bulk of his body, so that *Homer* in his *Batrochomyon achia*, makes them to give the signal for the fight. *Aristophanes* in his *Nubibus*, in derision of *Socrates*, brings in *Charephos*, demanding whether the Gnats make that found with their mouth or with their tail. Yet in his *Avibus* he terms them *ὄξύπους*, which the Scholiast expounds *ὄξύς* *δύς*, *shrill singing*. Their *Proboscis* (saith *Pennius*) seems to be given them by nature to suck blood and to feed themselves withall; but we may not assent to him in this particular, even reason is against it, for that the Gnat when he turns towards one sings more shrill, but in turning away more flat; which could not possibly be, if they made their found with their tail.

Καὶ τὸς κέρως
πρὸς μεγάλης
σάλπιγγος ἑ-
ρφέας,
Δειδὼν ἐπὶ λ-
αζὸν πολέμου
κ' ὑπὸν, &c.
And then the
Gnats with
their great
Trumpets
sound alarm to
the battle.

The structure or make of the Gnat there is no man but with *Pliny* may justly admire. For in these so small Insects and as good as none almost, what reason is there? what force? what inextricable perfection? where hath nature placed so many senses in the Gnat? where his sight, where his taste, where his smelling? where is begotten that terrible and great found which that little body makes? with what curiosity are the wings fastened, and the shanks and legs to the body? an empty hollow place for a belly which caueth such a thirst after blood, of mens especially? but their dart wherewith they pierce the skin, how sharp is it? as in the biggest it cannot be perceived, so it is doubled with reciprocal art, that it might be sharp to break through the skin, and fistulous to suck the blood.

Their manners and conditions are very ill disposed, both in regard that by their good will they will wound none but the fairest; and also those that are asleep, harmless and thinking no hurt. Whence groweth the proverb of a very ill conditioned man, that he is *κέρωπος ἀδωδέος*, more mischievous than the Gnat. The Gnat certainly is a very mischievous little creature (to use *Ælian*'s language) annoying men both day and night, both with his noise and his sting; especially those that live near the fens or rivers. Of whom *Tertullian* against *Marcion*, and his fifth book speaketh thus: *Endure, if thou be able, the trunk and lance of the Gnat; who doth not only offend the ear with the shrillnesse of his sound, but with his lance strikes through the skin, yea and veins also.*

The distinction of Gnats is very perplex and obscure, it hath puzzled all the Philosophers; which with the doubtful sense of words in Authors have almost confounded the things themselves. But to me they seem to differ especially in magnitude and malignity. For there are these several sorts of them, the bigger, lesser, middlemost and least.

The

The bigger may be called *ἔλεος*, because they have their abode in fenny and marish places; there they are begotten, and there nourished, they have a very long slender body with two wings; which they never lift up above their body as the fly doth, but straight up from their shoulders, and those are very neat, polite and compleat as may be.

They abound in woods that grow near the sea and the fens, not only in *Norway*, *Russia*, and other extreme cold regions (as *Olaus Magnus* hath observed) but in the *West-Indies*, in *Hispaniola*, *Pern*; and in *Italy*, near *Eridanus*, *Padus*, *Adria*, *Argenta*, where great store and very great ones are to be seen, terrible for biting, and venomous, piercing through a three double stocking and boots likewise, sometimes leaving behind them impoisoned, hard blue tumors, sometimes painful bladders, sometime itching pimples, such as *Hippocrates* hath observed in his *Epidemicks* in the body of one *Cyrus* a Fuller being frantick. Nay sometimes the vein being struck, they do so suck the blood, that when they are gone with their bellies full, it would flow out in drops of its own accord, even as we see in horses when they are bitten of the fly called *Tabanus*. The *Italians* use to clothe themselves with leather for that purpose, but yet scarcely and not altogether by any means they can use, can they escape their stings. Whether or no these are the *Styges* inevitable of which *Theophrastus* speaks of in his Book *de caus. pl. f. cap. 4.* I have not to speak for the present (saith the learned *Scaliger*) and it appears that they are the same, for that they are not bred in a place of free, thin and open air, but are bred and fed about fens and standing waters, as about *Argenta*, and the mouth of *Padus*. But if the be *Styges*, they have found out a very fit name for them from their hatred and malice, which the word *σῆτος* doth import. But those which are in the hotter Regions, and live by the sides of rivers and fens, are of a more fierce disposition, and sting more cruelly, as *Massarius* hath informed *Gesner*, and our countrymen the *English* under Captain *Drake* in their expedition into *Hispaniola* felt by experience. There are others somewhat lesse then these, nothing differing in colour, form, and frame of body, but yet in disposition more milde, and sting lesse. In the Summer time they are in the shady places, in the Winter in snowy places neer hedges and bushes, sporting themselves in their swiftness of flight, and as it were trying the mastery in fleeing from this place to that. They seldome bite, and when they do bite they draw no blood, but only a little salt sweaty matter which they feed upon; which causeth only a little hard and itching pimple to arise. These two species are especially termed of the Greeks *κνέπας*, others there are notwithstanding which have other names.

There are in *England*, especially in the north part thereof, two other sorts of them, of a third and fourth bignesse, much lesse than the former, but amongst themselves not much differing in their dimensions. These like expert and well trained souldiers, alwaies march in an exact pyramidal Figure, and although in themselves infinite, yet not any one of them breaks his rank. Thus they move upwards and downwards, when as in the twinkling of an eye, and while you can say, what's this? they bring their Army into a square body, and presently again into wings; the which if you rout with a fly-flap, or with water sprinkled amongst them, or with a strong blast of breath, they will instantly rally again, and before you can give a fillip bring their whole body into a pyramidal figure. They being in great numbers, do much infest the faces and eyes of travellers, and bite them: so many and so frequent are they, that out of what kinde of worm they should have their original it cannot be imagined. Countrey people suppose them, and that not improbably, to be procreated of some corrupt moisture of the earth. These small Summer Gnats are most frequent in the moneth of *May*, and seem to be nourished with a watery vapour, for their intestine or ventricle is very small, white and welnigh invisible, full of a white frothy thin moisture, and of little or no tenacity; sometimes they fly farther off from the water, and gather themselves in great companies about houses, as men passe over bridges they swarm about their heads, they love places that are without wind, they shun what they can a turbulent air, for by the troublesomenesse of the air they are dispersed hither and thither. Those kind of Gnats are properly called in *English* *Midges*.

Now we are to descend to other sort of Gnats, according as their names are given them in the *Ἑλληνικῇ* Greek. The chief of these are these three, viz. *Ἐμπίς*, *Ἰν*, *Κνίψ*: of which in order. *Empis* is a *κνέπας* of a kinde of Gnat living about rivers, especially about rocks, girt about the middle with a streak of *πλάμας*, white. It maketh a shrill-like noise as the other kinds of Gnats do, whence *Charephon* in *Aristophanes* his *Nubibus* demands of *Socrates*, whether he thought that the *Empides* did make that sound *χῆν, χῆν* with their mouth or their tail? *Hesichius* also calleth this *Empis*, *ἐμπίς*, or *Oxe-eaters*, because being deceived by the authority of *Aristotle*, he thought the *Oestrus* Fly came from them: the which we have declared before at large that they were procreated of Swallows. *Ἡ δὲ Ἐμπίς* *πύρρ* in *ἡ δοναελδύ* &c. *Arist. Hist. 5. c. 19.* Which *Theodorus* Latines thus: *Calices Muliones ex Ascaridibus gignuntur, hoc est Tipulis.* The Gnats called *Muliones* are begotten of the *Asarides*, i.e. the *Tipule*. These *Tipule* for the most part come out of wells or standing waters, the earthly matter settling to the bottome; for the mud first of all putrefying, becomes whitish, by and by after blackish, last of all blood-red, when it is such, presently there come forth certain little red creatures called *Algula*, which remaining for a time, they move to their original, and afterwards come to perfection; so that the *Tipule* so called, are carried by the water, then a few daies after they heave themselves above the water, hard and without motion; not long after the shell being broken, cometh forth the *Empis*, and sits there, till either moved by the wind or the Sun he be able to fly. Thus far *Gara*. Neverthelesse (not to wrong a famous man) I should think it a very easie

matter to shew where in many things he is out. Why doth he translate the *Empides Mulinones*, who are said not to live above a day, and feed only upon honey? which must needs be hard for them to get so readily in Fens and Marishes. For I may well call (without wrong to the judgement either of *Pliny* or *Penny*) the *Mulinones* as they call them, *Melliones*, for they neither care for *Mules* nor feed on them, but only upon Honey, the which they can smell at a great distance; they have a bill like a *Wood-pecker*, long and sharp, with which they devour in honey so greedily, that at length they burst their bellies, and so presently expire. In this also did *Gaza* trip, to say the least that may be, that he translates the word *Ascarides* by the word *Tipula*. For the *Ascarides* (whether they come forth of the earth, or the water, or otherwise) every man knowes do signifie little worms. Besides, the *Tipula* alwaies keep the top of the water, seldome or never go down to the bottom. Last of all, when as the *Tipula* themselves come of the *Ascarides*, who can rightly say that *Ascarides* are the *Tipula*?

Τὸ παρέρχον
ἐργολαβία
ἀξιώμενον τῆς
ἀφύπνου.

Ψύχ, is called *Culex ficarius*, i. e. *Fig Gnat*, not because it comes indeed from the fig-tree, but because it is fed and sustained by its fruit. For it is sprung of a certain worm that breeds in the Figs, which when nature cannot make her perfect work upon, nor bring to the sweetness and perfection of other Figs, lest she should make something in vain, by a certain quickning vertue, out of the grains of them being rotten and putrefied, she produceth these Gnats. Yet not so, as that the *Gnat* is the *παρέρχον*, or besides the intention of Nature (as *Scaliger* hath learnedly observed) or if it be, the truth is, the work by the bye is of more dignity than the main. Nature did propose to its self the perfection of a wilde Fig, a thing not so much to be esteemed of: this she being not able to bring to passe, turns her self from so common a work, to an enterprise of greater weight, and produceth a *Gnat* which she effecteth. Concerning those Gnats *Pliny* hath these words: the wilde Fig-tree brings forth Gnats, these being defrauded of the nourishment they should have received from their mother, being turned to rottenness, they go to the neighbouring Fig-tree, and with the often biting of the same fig-tree, and greedily feeding upon it, they let in the sun withall, and set open a door for plenty of air to enter in at. Anon after they destroy the milky moisture, and infancy of the fruit; which is done very easily and as it were of its own accord: and for that cause the wilde fig-tree is alwaies set before the fig-trees, that the wind, when the Gnats fly out of them, may carry them amongst the fig-trees, who as soon as they come into them, the figs swell and ripening of a sudden grow very big and full. Whence it is that the Greeks to expresse a woman great with childe and near her time (yea or newly conceived with childe), call her *ἑλκυσίλω*, *Gnat-bitten*. Those kemb'd and curle lockt *Pathicks*, and prostitutes of unnatural lust, were called from hence *Capifricati*, as witnesseth the Greek *Iambick*, *ἑλκυσίλω* κομῆς ὅστις ἑλκυσίλω, *Nemo comptus nisi Caprificatus*. There is no man that curls and trims his locks that is not *Caprificatus*. To this *Caprification* *Turnebus* thinks that *Adrian* the Emperor did allude, when he upbraids that effeminate Poet *Florus* with his *Pathick* obscenity under the term of *round Gnats* in a most bitter *Sarcasm*:

Florus had said,
Ego nolo *Cæsar* esse,
Ambulare per *Britannos*,
Scythicas pati pruinās.

To whom *Cæsar* answereth,
Ego nolo *Florus* esse
Ambulare per *Tabernas*;
Latitare per popinas,
Culices pati rotundos.

In English thus:

I would not *Cæsar* be
To travel *Britany*,
To suffer *Scythian* cold.

I would not *Florus* bee
To walk the *Taverns* free
In *Sculking* *Brothels* hide,
Or the round *Gnats* abide.

But what time these Gnats passe from the wilde fig to the fig-tree, they do it in such haste, that many of them leave either a foot or a wing behinde them. Now that they generated of the grains of the unripe fig, may be evident in that the wilde fig is left void of grains.

Cnips (some call it *ακνίς*) so called of the Greeks, *ἀπὸ τῆς κνίσης*, from biting or stinging, (for that the twinge the flesh, and with their biting cause an itching in the same) is a very small Gnat, not unlike the *Conops*, who although by his sitting upon the Fig it may seem the same Gnat spoken of before, called *ἑλκυσίλω*; *μάστιγα* ἐν τῷ σπυρί (as *Theophrastus* saith) *ἡ δὲ κνίση ἐν τῷ γλυκύνῳ* ὕδατι. *τῆς δὲ κνίσης φλοῖον συνιστάμενος*. Which place *Pliny* interprets thus: There is a kinde of Gnat very offensive to certain trees, as to the Oak, of whose moisture that is under the bark they are thought to be bred. *Theophrastus* calls all those *κνίπες*, what ever they be that are bred in the Elm, *Naven*, *Rapes*, *Poley*, the *Mastick*, *Turpentine*, and other trees, either with putrefaction or otherwise. These or the like, but a little bigger, *Cursus* in his 13. Book, saith are very hurtful to the orchard *Walnuts*, which are called of those of *Lions*, *Bordella*, *Bordells*. *Galens* opinion is, they are great devourers of *Grapes*. The moisture of the Elm included in its first growth in the leaves, or rather bladders, if it dry up, is changed into these *Cnips*. In the Autumn it brings forth other kinde of Gnats, many, small, and black, called *Canchryes*. *Symphorianus*. They do especially haunt and spoil watered gardens, the crop and scrape most kindes of herbs. *Velarandus Insulanus*, an Apothecary at

Lions

Lions hath observed them very frequently to come forth of the middle or heart of the Oak Apple, having a hole made into it: as also out of divers other herbs, not so much by reason of putrefaction, but rather out of the alteration of certain principles being digested into a better nature by successive labour.

Origen upon *Exodus*, saith that with these little creatures God did the third time take down the proud heart of *Pharaoh*: the which are hung in the air by the wings, but yet as it were invisible, and do so subtilly and quickly pierce the skin, that the fly which you cannot perceive flying, you may feel stinging. So all the ancient interpreters following *Origen*, expound the word *alates*. Only *Tremellius* (a very faithful interpreter of the Hebrew Text, and of sacred Writ) is of another minde, who thinks this plague to be a swarm of such kinde of creatures, as if the Gnats and all other venomous and stinging flies joyning all their forces and coming together in troops and swarms; had agreed as being sent by God to break the pride of the *Egyptians*.

They fly in the air aloft in manner of an Obelisk or Pyramide; especially in the evening, they play up and down by hedge sides, when it is hot and fair weather, they fly in the sun-shine, against rain in the shade. It may be they are the same with those we call *Midges*, and doth not much differ from that which *Albertus* calls *Schaggen*; the Italians, *Zenzalis*; the Heathen, *Cinifes*. There is a kinde of Gnat which the Greeks call *κνίς, κνίσις*; the Latines, *Herculei*; in sloth and malice like to Drones, and never wound or hurt any but those of their own name and alliance; for as soon as they perceive other Gnats full of blood and moisture, after they have fought with them, they take them for their prey and eat them; whereas they live idly and do nothing else but seek for their food gotten by the labours of others. Our Ancestors have observed a kinde of Gnat to be bred in the fowre Lees of Wine. Which because they are not heard to sing or make any noise, I had rather think them to be those which *Scaliger* calls *Vinnula Mascilionis*, Wine-flies. Nor do I passe for the opinion of *Niphus*, in regard they desire fowre things, and refuse sweet: when as he himself saith elsewhere, that they are fed chiefly with the juice of Ox-dung, than which nothing can be more sweet.

The English Gnats are not so stinging as others, nor do they raise so great pimples, but the lesser sort of them is the more cruel; and yet they leave nothing behinde them but a little itching spot, like a flea-biting. The Gnats in *America*, especially those they call *Yetin*, do so slash and cut, that they will pierce through very thick cloathing. So that it is excellent sport to behold how ridiculously the barbarous people when they are bitten will frig and frisk, and slap with their hands their thighs, buttocks, shoulders, arms, sides, even as a carter doth his horses. The Gnats about *Terra incognita*, or *New-found-Land*, and *Port Nicholas*, as also in divers other Northern parts, are to be seen in great numbers, and of an extraordinary bignesse, as the Sea-men and *Olaus magnus* affirm. The cause of their multitude *Cardanus* attributes to the unintermitted heat and the length of the day. The cause of their bignesse to that watery and and unctuous moisture which was gotten together by reason of the long cold. But forasmuch as in the hotter parts of the *Indies*, as *Ovidius* (and experience) testifieth there are altogether as great, and many more sorts greater and store, *Cardanus* may well satisfie himself, though he cannot do me.

Of the Generation of Gnats Natures secretaries do diversly dispute: *Albertus* saith their material is watery vapours. *Aristotle* denies that Gnats should be generated of Gnats unless by means of a little worm as Flies are. But since that they do not use copulation, I do not perceive how that can be. *Plerius* was the first that taught how that Gnats do come of certain worms breeding in wood, when as yet every man knowes that Gnats are produced of worms in the *Nave*, *Privet*, *Mastick*, *Turpentine*, *wilde Fig-tree*, and other like Trees, as if seed were sown, and that not by way of putrefaction, but animation.

I did chance to finde (saith *Bruerus*) in a dirty filthy ditch an Insect with very long feet, which for the likenesse of the form, you would say was one of the larger sort of Gnats coming forth of a soft leathern purse. I did imagine that it might be bred of some worm like unto the canker shut up therein; for the shell within was such as those the cankers transform themselves into; Whether it should be called *Culex*, a greater Gnat, or *sigog*, it is doubted by the Author. To these (as to all other the like hurtfull Insects) the merciful Creator hath granted but a very short life, inso much that they which are bred in Summer never live till Winter, and they that are bred in Winter never see a Summer.

Yet notwithstanding God hath created them for divers uses, whether we respect God himself, or other creatures, or our selves. For not only *Mynatii*, *Mynsi*, *Astabarani*, *Arrhetenses*, *Gua-vicani*, were by the just judgement of God, driven out of their cities into deserts and solitudes, as *Pausanias*, *Leo Afer*, *Alian*, and the *Indian* Histories relate: but even the *Egyptian* Tyrant, of all that ever the earth bred, the most cruel, (as the sacred Scriptures that are more ancient then all the Heathenish *Jupiters* or other gods, do testifie) was vanquished with an Army of these. The least of those the Pope could not rid out of his throat, but was with one of them miserably choaked. With what a fiercenesse did they charge the Army of *Julian the Apostate*? how did they make him turn his back, and fall down dead? Let Apostates from the faith consider, and weigh the matter well; let them think more seriously of the strength, power, and majesty of the Creator, when as they see such cruel stings and more sharp than any poynard whatsoever, to be in such an abject contemptible creature as this is. Neither doth God make use of them to punish wicked and ungodly men, but also for the preservation and safety of mankind. For about *Meroe* and *Astaboras*,

The Generation of Gnats.

The Use.

Astaboras, as *Strabo* reports, so great is the plenty and fierceness of the Lions, that unless they were chased away by a great kinde of Gnat (that troops up and down all that Region) they were not able to live in safety, nor in the most fenced Cities from their invasion. The same is wont to happen in some parts of *Mesopotamia*, as *Ammianus Marcellinus* writeth, where the Lions being stung with the Gnats, and defrauded of any remedy against them throw themselves headlong into rivers, and are drowned in the deep. To the *Egyptians* also, although sometime they were deadly enemies, yet are they now auxiliary to them, as *Herodotus* writeth, in that they wound and sting to death the young *Axilla*, before they get feathers, being noxious to them. Moreover were it not for them, the whole species of *Bats*, *water Frogs*, and bank *Swallows*, which prey upon the Gnats and feed only upon them, would perish. But whereas *Gaza* saith that the Bird called *Cnipologus* (a kinde of Wood-picker with an ash-coloured back) doth eat Gnats doth not agree with their nature. For that kinde of Bird feeds on a little worm that breedeth in the rotten wood, called *Cossus*, the which he picketh out with his bill: He was deceived, it seemeth, by the Amphibology of the word, which signifieth both those worms, and Gnats also, for so are they called in Greek *xims*. But if there were such a Bird, I should affirm without all doubt that it is the *Nycter*, which by *Hesychius* and *Varinus* is called *Konopothera*. The Gnats called *Psenes* do cause Figs to ripen, by taking away their milky moisture, and by bringing in the Sun beams with them: and for that reason in those places where Figs do grow, they are bred in the wilde fig-tree, that from thence being blown with the wind, they may light amongst the fig-trees. By which words of *Pliny* it is manifest that Caprification is nothing else but a certain skill how to cause the Gnats when bred in the green or raw wilde Fig, to fly to the Figs, that they by the wasting of their milky juice and moisture may bring them the sooner to maturity: the which is brought to passe two manner of waies: for either the wilde fig-trees were so disposed round about the Fig-trees, that wind might blow them thence unto them; or else wilde figs being gathered elsewhere, and bound together in a bundle, were cast into the trees; and therefore the little beast like to a Beetle, called in Greek *νεγυβ*, with his noise scaring away the Gnats, and feeding on them if he catch them, the Fig-keepers are wont to chase away and destroy.

The Gnats also seem to be more worthy esteem than the ordinary sort of Almanack-makers; for they will tell you the weather at all times for nothings, and that more certainly and truly, than they which boast themselves born by the *Tripes* of *Apollo*, and a long while brought up at *Cuma*. For if the Gnats near Sun-set do play up and down in open air, they presage heat; if in the shade, warm and milde showres; but if they altogether sting those that passe by them, then expect cold weather and very much rain. When a Gnat comes forth of the Oak-apple about *Michaelmas*, it foretels war and hostility; if a Spider, dearth; if a worm, fertility and fruitfulness. *Mizald*. If any one would finde water either in a hill or valley, let him observe (saith *Panano* in *Geopon*.) the Sun-rising, and where the Gnats whirle round in form of an Obelisk, underneath there is water to be found. Yea if *Apamasaris* deceive us not, dreams of Gnats do foretell news of war or a disease, and that so much the more dangerous as it shall be apprehended to approach the more principal parts of the body.

Upon a certain time there was seen in the air between the Monasteries of *Sion* and *Shene* in *England*, such a pitch'd battel of Gnats, that you could not see the Sun at mid-day. The fight was maintained for four hours, as long as the Armies could stand; at length a mighty slaughter being made on both sides, so many dead carcases of Gnats were found in the hedges and high-waies, that they were feign to sweep the corn fields and meadows with beesm. There followed upon this the banishment of the Monks in both the Monasteries. *Stow*. Whether this be true or no, I leave to those that can resolve such truths; I proceed to that may be of more certainty to be taken notice of.

Of great use are the Gnats unto us, when as the Fish called *Thymallus* (as *Alian* witnesseth) can be taken with no other bait then with Gnats. But as they are sometimes useful and profitable, so are they for the most part very irksome and troublesome, wherefore nature and experience have taught us remedies against them. To which end you may make a Fumigation or Perfume of *Pomegranat Pills*, *Chamæleon*, *Thistle*, *Lupines*, *Wormwood*, *Grist*, *Pine*, *Fleabane*, *Elecampane*, *Cedar*, *Radish*, *Cummin*, *Rue*, *Hemp*, *Dung*, *Galbanum*, *Castoreum*, *Feaver-stone*, *Harts-horn*, *Goats-hoofs*, *Elephants dung*, *Brimstone*, *Sulphur*, and *Vitriol*, which will drive them away.

There are prescribed also these compound receipts: take roots of *Elecampane* 1 dram, *Ammoniacum*, *thymiana*, *storax*, of each 2 drams; burnt shels 2 drams, put all these into the fire and perfume your cloathes. Another; Make powder of *Harts-tongue*, and with *Vitriol* perfume them. Another; Take *Wine-lees* dried, and *Ceruse*, of each alike, with *Copperas* and *Oxe dung*, perfume them. *Aetius*. Another; Take *Vitriol*, wilde *Gith seed*, *Cummin seed*, of each alike, with *Oxe dung*, smoke them. Also the vapour of very strong *Vinegar*, and of *Origanum*, doth chase them away. Another; a *Sponge* dipt in *Vinegar* and burnt in the house drives them away. So *Wormwood*, with *Radish Oyl*, by anointing preserveth from Gnats. *Novus*. *Palladius* adviseth to sprinkle new *Brine* and *Soot* in the chambers of the house. *Rue* dipt in a decoction of *Fleabane*, and laid in the several corners of the house, kills the Gnats. *Ruellius*. If you make a circle of green wet *Hemp* about the bed, Gnats will not trouble you. *Geopon*. If you anoint your self with *Oyl*, or the *Manna* of *Frankincense*, they will presently be gone. The trees that grow in watery

watery gardens, and plants infested with Gnats, are freed from them by burning of *Galbanum* as *Pliny* saith. But a prodigious, that I say not superstitious, remedy seemeth that of *Rhais* to be, I know from what juggling *Democritus* he had it, hang some horse hair and make it fast in the middle of the door, and Gnats will not come in at it. But why should Vinegar kill them, a thing which they naturally desire and thirst after? unlesse it be the vapour of that thing that destroyeth them by taking away their breath (as it often comes to passe) whose substance would nourish them. *Apollonius Tyanens* (as *Tzetzes Chil. 2.* hath left recorded) did so order the matter that no live Gnat could come into the Cities of *Antiochia* and *Bizantium*. But since we do not see how that should be done, the less credit may be given to it.

The Grecians have devised a kinde of tent or covering in manner of a net, of linnen, woollen, or silk; which being hung about their dining rooms and beds, kept the Gnats from entring in. Our Countreymen that live about the Fens have invented a canopy (the first that ever I read of) with less cost, but the same profit, which they call a *Fen-canopy*, being made of a broad, plain, half dry, somewhat hard piece, or many pieces together of Cowes dung, and these they hang at their beds feet: with the smell and juice whereof the Gnats being very much taken and feeding thereon all the night long, let them sleep quietly in their beds without any disturbance or molestation at all, being sufficient reward for their pains so taken. In the day time they are kept off with a fly-flap made of Peacocks feathers or other the like things bound together; unlesse they be very numerous, and small Gnats, for then they will fly into the eyes, ears, nostrils, and mouth also, and taking greater courage to them, sting more sharply, notwithstanding these Remedies.

CHAP. XIV.

Of Butterflies.

THE Butterfly is called of the Greeks, *ψύχ, πάρος, ψάλλυς*, also *οντοδιδυς, περσιδης, περφαλος, οκνυς*; but the more general name is *ψύχ*. The Latines, *Papilio, Ardoynus* calleth it *Campilo*; *Isidore, Avicula*; the Italians, *Farfalla*; the French, *Papillon, Papilion*; the Spaniards, *Mariposa*; the Polonians, *Motill*; the Hungarian, *Lovolddeck*; the Illyrian, *Pupielas, Meteyh, Motyl*; the Germans, *Pisnet, Mulk, Pffscholter, Summerunegel, Zweifalter*; the Flandrians, *Uleghebronsus, Botsershyte*; the Brabanters, *Capelleken, Vlindere, Pellerin, Boter Ulieghe*; the English, *Butterfly*.

The Butterfly is a volatile Insect, having four wings, not two (as *Constantinus Friburgensis* dreamed) six feet, two eyes standing forth of his head, and two lither Cornicles growing forth from before his eyes: the Butterfly hath a two forked beak or bill, and within those forks is couched another little bill or beak, with which they suck in, some the day dew, others the night. They couple sometime with their tails averse, sometimes reflex; and continue long in the act of Copulation. They lay and fasten their Eggs, not little worms (as *Arist.* imagined) on the top and under the leaves, some great, some small, yellow, blew, blackish, white, green, some lesser then Miller seed, some twice as big, others just as big; according to the colour and natural magnitude of each Butterfly. These eggs being laid in a warm place, or being cherished and caused to grow in the day time with the heat of the Suns beams, shoot forth a Palmer or canker-worm, at the first all of one and the same colour with them, but afterwards, as they grow bigger they change their colour. Out of some eggs the Caterpillars appear at four daies end, others do not hatch before fourteen daies, which by little and little get strength and fly, but weakly; yea some of them being kept from the injuries of cold and hard weather, endure all the winter, as experience doth sufficiently confirm in the Silk-worm. After copulation all the Butterflies do not presently die but live in a languishing condition, till winter, and some to the winter solstice; the lesser and weaker sort of them are very short lived; the more strong and hardy continue longer; they appear in the Spring time, out of the Canker-worms, *Aurelia*, growing by the heat of the Sun, and by the temper of the air being instead of a Midwife to them, they are brought forth. The coming of them is for the most part a sign of the Spring coming on; but yet not alwaies, nor in all places. For although they be very weak and not long lived; yet while we were writing, this (saith *Pliny*) it was observed that their issue was thrice destroyed by cold weather coming again: and strange Birds about the 6. of the Kalends of February gave notice of the Springs approach; but a while after with a cruel bitter winter weather that succeeded, they were all destroyed. We ought not to wonder that those foolish *Icarian Astrologers* having no ground for what they say, do tell us that which is false; whereas it doth appear by this, that Nature her self is inconstant; and we being more addicted to second causes than we should; and being unmindful of the first Mover, are deceived by her. *Pennius* reports of two swarms of Butterflies in one Autumn. Now although I do not deny with long and sharp frosts they may all die, yet they are able to endure moderate cold, and do live in warm places even in very cold seasons. For how commonly are they found in houses sleeping all the Winter like Serpents and Bears, in windowes, in chinks and corners? where if the Spider do not chance to light on them, they live till the Spring.

Description.

Copulation.

Arist. saith that they all take their colour from the worm they are bred of: but yet (if this

this be granted) they have other colours besides, as will appear in their particular Descriptions and Histories.

They most abound in the time of Mallows blowing, out of whose flowers when they have thrust in their snout or *proboscis*, they suck a sweet juice with which they refresh their bodies. *Columella* in his Book *de Nat. rerum l. 9. c. 11.* speaketh of the Butterflies thus coupling, and beginning on this manner: *The Butterflies couple after August; after they have coupled the male straight-way dies: out of their dung come forth worms.* But all these things are so horribly strange that they have no shew of truth. For their chief time of coupling is in *May* and *July*: neither doth any Male of them die immediately after copulation; unless it be of that kinde of Butterflies of which those Caterpillars come which are called Silk-worms. To conclude, those things he supposeth to be dung, are indeed eggs: out of which come not worms, but a great many little Cankers, out of whose cases come Butterflies.

Difference of
Butterflies.

There are so many kinds of Butterflies as there are of the Cankerworms: out of whose *Aurelia* they proceed. They differ generally in that some fly abroad, especially by night, these are called *Phalena*. Others only by day, which are called therefore, *hispiones*, or *Day-flies*. The name *Phalaina* is a *Rhodian* and *Cyprian* word; for so they (as *Nicander* the *Scholiast* witnesseth) call that creature which flies to the candle, viz. (*παρὰ τὴν ῥῆν ἀλλήδω*) *Turnebus* out of *Nicolas* and *Lycophron*, will have *φάλην* to be taken for *φάλανα*: of whom, because with the motion and force of its wings it oftentimes puts out the candles, is called *καυδολοβίσκος*, from the roughness, and the bran and meal which seems to be spread upon it, it is called *Λάβη*. And because some of them are so far taken with the love of the light, that they burn themselves with the flame, they are called *Pyrausta*. There are those that interpret this *Phalaina* to be the *Cicindela* or Glow-worm, but not rightly; forasmuch as the Glow-worm never desires the candle at all, but delights generally and chiefly in a dark night. The Germans call it *ein Leight mucken*, *ein Leight flugen*; the Helvetians, *Flatterschen*; the Italians, *Farfalla*, *Paviglione*, and *Poveia*; our North, as also the West countreymen, call it *Saulei*, *e. Psychen*, *Animam*, the soul; because some silly people in old time did fancy that the souls of the dead did fly about in the night seeking light. *Nicander* describes a *Phalaina* thus: which *Hieremias Martius* interprets thus:

Consider what strange beasts rude Memphis breeds;

One like a flying worm, by candle light;

Wherein he plays as if he took delight:

Driven from meats, whereon at night he feeds.

His wings are narrow, of pale hue, not green;

But more like ash-coloured to be seen.

From these things therefore we may gather this description of the *Phalena*, that it is a kinde of Butterfly flying in the night, most desirous of enjoying the light; from whence it takes its name, of a body rough, its wings powdered or sprinkled as it were with a fine kinde of ashes or dust; lying hid all the day time under leaves, or in some obscure place of recess, in the night flying about the candles, and by its too much desire of them reducing it self into ashes: seldome or never it flies but with the wings standing upright on the back, as on the contrary the day Flies keep their wings even with their body. Horns they have for the most part, either rough and large, or very little and short: but the day Flies more long and tuberos in the extremity of them. The *Phalena* come out of the shells of the Canker-worm covered with earth. The day Flies from their *Aurelia*, either hanging upon or sticking unto the boughs of trees. They are for the most part rough, and as it were dusty, flying in the dark, very tender; these on the other side flying in the day-light, are more plain, smooth, even, and have no dust upon them. They fly seldome in the day but toward the close of the evening, lest the dust that is upon them being dried by the heat of the Sun and drowth should shake off, being never used to be wet with rain. But these are not able to fly by night, lest the night dew should wet them quite through, and hinder both their flight and their health: wherefore in rainy weather and all night they shrowd themselves under the leaves, and never fly abroad but in clear and fair weather. The *Phalena* are no lesse affected with the candle than these with the day-light: wherefore these rejoyce at the day-star, that is to say, the Sun; but those at the night-star, to wit, the Moon, and Stars, and candle-light, resembling somewhat the nature, splendor, and glimmering light of the Stars.

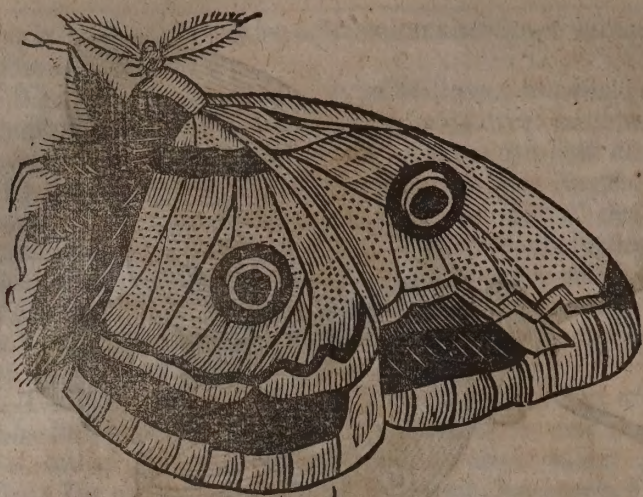
The *Phalena* are all either very big or very little. The bigger sort of them have their belly and also the inside of their wings altogether of a sandy colour. The eyes seem blue, the head blackish; between the eyes come out two dusky coloured horns, Eagle coloured, with black crosse lines wreathed like a rope. Upon the shoulders there is a kinde of sandy dusky coloured roll or welt: from whence a black crosse spot is drawn to the end of the shoulders. The body if you look on the backside, is of a bright blue or azure, if on the belly, it is of a sandy colour. The two outmost wings are very large and Eagle-coloured, finely set with spots and white circles, the innermost are far lesse and yellowish, adorned in the inside with certain dusky streaks and spots; it hath thighs brawny and strong, all of a dusky colour, and at the end forked and black. It flies with a great noise, and being blinde in

in the night, what ever glistering there be arising of rotten wood, scales of fish, or the like, it greedily followes. As great Tyrants devour and spoil their subjects, so those night-walking Butterflies batter with their wings and destroy those that fly by day, being by night lodged under leaves.

The second *Phalena* of the first magnitude, as it is somewhat lesse in bulk of body than the former, so it far excels it in the gloss and splendor of colours: as if Nature in adorning of this had spent her whole painters shop; and had intended the former for the King of Butterflies, that is to say, strong, valiant, blackish, freckled: and this for the Queen, delicate, tender, fine, all beset with pearls and precious stones, and priding it self in embroidery and needle-work: her body downy like Geese, something smooth and hairy, like Martens or Sable skins; the head little, great eyes standing out, two cornicles like feathers, of a yellow or boxie colour: she hath four great wings, every one of them having eyes of divers colours, the apple whereof is black, the circle or roundle next to it of various colours, with yellow, flame-like, white, and black coloured circles, and semi-circles. The outer wings from their original to their extremities are whitish, beautified with certain little veins and specks; the edges whereof are adorned with a welt or guard, and a hem of dunnish or dark yellow colour: the inner wings brown or tawny, having one eye apiece as the former, with a three-fold border, the first whereof is plain, the middlemost part going in

and out like a scollop (both of a fiery colour) the outmost of all of a pale white, and as it were sown on by some Skinner or Furrer, she goes upon strong, rough, brawny thighs, of the same colour with the rest of her body. This did *Carolus Clusius* send from *Vienna*, of so elegant and notable figure, that it is easier to wonder at and admire, than with fit expressions to describe.





The third sort hath a great body rough and blackish; each wing hath one eye, the sight or apple whereof is black, the roundle brown, the half circle white. There are divers pieces in the wings of a watry *Amethyst* colour, the edges of the wings at the first sight appear ash-colour, afterwards Eagle-colour. The head very short and little, putteth forth on either side a black eye, the apple whereof is of a notable whiteness, between those break forth two very small short horns of a dunnish colour. It is begotten of a rough Canker-worm, not a smooth.



The fourth hath a great dark coloured head, out of which arise two straight cornicles somewhat black, the neck is adorned with vermilion specks, the breast rough, square, dusky, the shoulders coal black, the belly of *Amethyst* or purple colour, divided with five or six circles or rounds; the feet black as pitch, the wings of a light brown, full of long black little veins.

The fifth hath a white head, black eyes, the horns a little yellow, the outmost wings long, of a sad colour between white and brown, the innermost being lightly and as it were by the by coloured reddish, the shoulders very black, the rest of the body somewhat of a rose colour, bound about with seven black circles, a white line running all along the middle of the belly.



The sixth hath head and shoulders rough, and the utmost wings drawn with bloud colour lines, are a white brown; the eyes of the head standing out, of a violet or a zure colour; the inner wings somewhat of a carnation, represent the eye in the middle part, shining with the apple crow black, the circle about it purple; the body like dried flesh, and a little smoak't, divided with six roundles black and brown.



The seventh hath the outer wings white, with certain brown spots here and there as if it were watered Chamblet; the neck ring'd about as it were with a red skin reaching all down the shoulders like a Fryers cowle; the head is red, the eyes pearl colour, the horns flame colour; the innermost wings of a shining red speckled black; the feet red, the belly all of the same colour, with seven incisures or cliffs of a deep red lead colour.



The eighth is almost all over brown, but the edges of the wings and the middle part of the horns are of yellow or box colour.



The ninth is almost like unto it, but that the edges of the wings are like black sand, it hath horns broad and bended, of a whity-brown colour, the middle of the outermost wings stopped with a round white spot.



The tenth is of a like bignesse, all over of a white brown, but that the middle of the outermost wings is marked with a white spot, and the eye with a very black apple.



The head of the eleventh is tuberous, the horns slender, the body like clay trodden; otherwise the wings are all of a dark silver colour.



The twelfth somewhat of an ash-colour, the wings spotted black, the eyes black, the apple white.





The thirteenth hath very little or no horns at all, the body all over yellow, except the eyes (which are little and black) and the wings which are whitish.



The fourteenth appears of colour various, it hath black tuberos horns; as also the eyes and feet; the shoulders are drest with five white plumes as it were, of which the two middlemost have three black specks; the wings snow white, bespeckled here and there with black, yellow and blew specks; the body russet, articulate or jointed, the sides whitish, she puts her tail in or out as she pleareth, it is sharp, yellowish, jointed; all the body as it were sprinkled with dust; otherwise in regard of the tuberos cornicles it had come in the number of the day Butterflies. It layeth abundance of yellowish eggs, in the laying whereof she puts forth a little tail, which she puls in again at pleasure.



The fifteenth hath two black slender cornicles, the head and shoulders hairy, of a dun colour, the neck adorned with a collar of Vermilion, the shanks reddish; the outmost wings chamoletted with white and dun, the innermost are exactly red spotted with black spots; the body of a light vermilion, rounded about with six black guards, or welts.



The sixteenth seems to be very rare: if you look upon it as it lies on its back, it seems to be all over of a murrey colour; if as it lies, green and yellow; it hath five very red lines or streaks drawn along the shoulders; as also seven spots set quite through the middle of the back, do adorn the rest of the body: the wings also traverse with murrey spots or shadows rather, the beginning whereof from the head to the bottom of the breast is terminated with a line of whitish or silver colour.



The seventeenth, when it goes upon its feet and its wings close to its body, looketh dun; but when it flieth with the wings stretcht forth, the innermost wings are carnation set about the edges, with a blackish list or border: it hath very long cornicles, and the promuscis or snout doubled in or rolled up together: the gray shoulders are marked with round sand colour spots; the side also, and all the joynts of the body are set and edged about with hoary hairs.



The eighteenth being very rare indeed, was sent me by *Clusius*. The horns whereof pike colour, the head black as pitch, the nose crooked, the circle of the eye white, the neck scarlet or crimson; the shoulders being rough or hairy, are covered as it were with a sable mantle; the outer wings decked with a white and black hem; the innermost red speckled here and there with black spots; the body black, as likewise the feet; but the sides of the body are set out on each side with seven bloud-colour spots.



Like unto this there was another sent, but with the cornicles altogether crow colour; and on the middle of the shoulders dressed with a pure white list, as it were with a string of pearl.

Of all these the bodies seem to be of a great bignesse.

Now we shall addresse our discourse to the middle sort of *Phalena*.



The first of which is white all over, but only that the outer wings are bedawbed with certain black spots & freckles; and the innermost with very red specks and pimples white in the midt; the eyes very black, the feet and horns yellowish; in stead of a nose there comes forth a rough

hair or bristle, the which is wound round up together like a roll.



The second, the whole body rough or hairy, and of a light red; and so are the outer wings, were it not for whitish spots, and hems that go about, and yellow little eyes in them; the cornicles being yellow, are marked with black spots; the inner wings are of the colour of the marygold, but adorned with eyes and hems like the former.



The third hath four white wings; the outer wings overcast with little blew veins here and there plentifully, and two round blackish spots in the middle; the line that is about the wings is yellow, and the cornicles of the same; the head and body black, the eyes exceeding white, the sides of the shoulders are marked with four very white oblique lines on each side.



The fourth hath broad horns of crane colour, the body black, the sides gray, the wings yellowish, all over besprinkled with black spots like dragons, broad at the top, and afterwards round; the edge of the wings like the Bars snagg'd, and as it were prickly, all over black, within six white specks; pearls being placed on each side do set it out.



The fifth is all over black, but that it hath pale reddish spots upon the wings.



The sixth hath the body and the cornicles black, the eyes white; the wings are black underneath, above trimmed with golden hairs & spots; to which are joyned black studs, run through with a silver coloured thread: the outmost wings have a black border winding in and out, with gold laid underneath, and as it were wrought in and out with a needle.



The seventh broad horned, the black body waxing hoary; I know not whether I may count it for a discredit or a grace to it. The beginning of the wings are red, the rest yellowish, but each part embossed with black square spots and a golden thread running along the edges.



The eighth hath four cornicles spreading wide, of ash-colour, two of them very long and larger in the borders; the body like the former, the wings of a pale ash-colour, chequered with black, and painted every where about the edges with drops of the same colour.



The ninth, the head, eyes, cornicles, body, and innermost wings do represent the golden ochre; the shoulders and outmost wings are black, but only for a black border, having on each side of it an ash-colour line.



The tenth hath its body yellow, bedropt with black from the neck to the tail, both back and sides; the eyes, cornicles, and feet perfect black, the outermost wings white, but garnisht with borders of yellow, black small studs, and spots likewise.



The eleventh if you look on the wings, it is snow or milk white, but only that it is all to bespeckled with little black spots; the shoulders also are white and downy; the body and back yellow, and jointed, having eight little black spots; the eyes big and standing out of the head, between which sprout out two black and hairy cornicles. In the night time she flies about the meadows and pastures.



The twelfth hath its wings so long that it can scarce fly; it hath very short cornicles, little very black small eyes, all the body else is white, being here and there sprinkled with certain yellow veins and hairs.



The thirteenth (except its black eyes) is of a Crane-colour, somewhat blackish; the cornicles more than ordinary long, the body rough and hairy, the wings of the same colour with the body, but about the edges glistering with a greenish, glassie varnish.



The fourteenth is a very rare one, though all over almost of a sand-colour; it hath cornicles for the bignesse of the body, strong, black, and crooked like the ox, the eyes great and black, the head short, the neck thick; the outermost wings adorned with certain black studs; the ridge of the back is dressed up as it were with five black heads of Gilliflowers, three forked.



The fifteenth hath its wings of a pale ash-colour all over, amongst all the rest it is destitute of cornicles, the eyes are somewhat black; the back yellowish and set with five dusky coloured spots.



The sixteenth seemeth to be of the same colour, but that it is streaked with black athwart the outermost wings: but this is every where of one colour (except the eyes which are black). It hath a long body, joynted, four long narrow wings, six feet, those behinde are twice as long as those before, it hath slender cornicles but growing out very far.

17. This comes of the Caterpillar of a Silk-worm, white all over but the eyes, which are blackish, and certain small yellowish veins running straight over the wings, and crosse the joynts of the body: I call it the Silk-worm *Phalena*. Of which more in the story of the Silk-worms.

The least sort of *Phalena*.



1. In the Classis of the least sort of all, we shall place one and the first very admirable, going on four very black feet; it hath the outer wings azure, the innermost yellow, and the innermost (which is not usual) lesse then the outermost; the yellow body also is so big, that the wings can scarce cover it; the cornicles are full of little points, and the eyes all but the fight blackish; the head and the snout (being long, slender, and rolled up together) are somewhat yellow.



2. The second appears blue and green, it hath a little body, the feet and cornicles blackish.



3. The third hath the shoulders and wings greenish, of the colour of leek blades; the body dunnish; the outmost wings are guarded with a guard set with white and dun spots; it hath a very little head, the feet and the cornicles ash-colour.

Moreover there are found in houses a certain sort of little silver coloured *Phalens*, marked with black spots, which fly to the candles, called *Moths* in English, which eat linnen and woollen clothes, and lay eggs, of which come *Moths*, and of the *Moths* again these *Phalens*; they are said to come first of all from rose leaves and other herbs putrefying.



Three others I have observed in pastures and meadows. The first whereof hath the outer wings black, each of them marked with 5 red spots like bloud, the innermost wings are all over red, the body dun, the head, short cornicles, and the feet blackish. The second is all alike, only that it hath but four red spots in the outmost wings, and hath a more slender body. The third is almost of the like shape too, but the cornicles are a great deal longer, and the red spots scattered after another manner; for there appear about the edges of the wings only two red bloud-like spots; but from the rising of the wings two spots drawn at length. And thus much may suffice to be spoken of the night Butterflies, or *Phalens*; passe we on now to the day Butterflies.

The Day Butterflies are to be described after such a sort, that all men may see the fruitfulness and elegancy of Nature in this behalf and admire. For she hath not lette played her part, or wrought hard rather in the variety of these, their colours, attire, rich apparel, roundles, knots, studs, borders, squares, fringes, decking, painting, making them, then she had done in the *Phalens*.

1. The first Day-Butterfly being the greatest of all, for the most part all yellowish, those places and parts excepted which are here blacked with inke. Moreover, the roundles of the inner wings are sky-colour, insomuch that you would think they were set with Saphire stones; the eyes are like the Chrysolite: the bignesse and form is so exactly set forth in the figure, that there needs no more to be said of it.





2. The second differs very little from the first but in bignesse; it hath nevertheless, very black eyes & longer cornicles, where you see the color white, there suppose it yellow, except it be those great eyes at the end of the innermost wings, the apple whereof must be made flame-colour, but the semicircle bloud-red.



3. The third not much unlike in colour, but that the extuberances, and the outmost border of the innermost wings is sky or woad-colour; as also those three taches which you see painted under the hollow part of them.



4. The fourth may be said to be the Queen or chief of all, for in the uttermost part of the wings, as it were four Adamants glistering in a bezil of Hyacinth, do shew wonderful rich, yea almost dazzle the Hyacinth and Adamant themselves; for they shine curiously like stars, and do cast about them sparks of the colour of the Rainbow; by these marks it is so known, that it would be needless to describe the rest of the body though painted with variety of colours.



5. The head, feet, cornicles are of bloud-red, but the eyes purple, the back black and blue, the belly yellowish, the wings at the basis of a bright yellow, and afterwards more sad; the utmost parts of them being rusty colour, and waxing blackish with an unpleasing duskiness, are beautified with three little yellow spots; to the innermost being sprinkled with rusty colour, first two yellow, afterwards three pale yellow spots do stick. If you consider them with the face upwards, the upper wings are of a greenish yellow, marked with six or eight spots, the innermost of a light grass-green, stained with two white spots; the belly and face yellowish; it comes out of a whitish *Aurelia*, spotted with little dark coloured spots.



6. The upper wings without are blackish, with a certain gard of a decayed red running through the midst; the extremities of them glister with white spots and specks like drops, being sharpened with dark coloured notches round about; but in the inside that guard doth shew of a more clear and full colour, and toward the bottome they seem blue; the undermost wings appear of one colour without, of another within, without they are all over sad coloured, except a reddish border, with a prickly purple very small and blackish, marked with four little points, and two diverse coloured opals placed together; within they



they shew nothing like to this, but from a black and purple embroidery, they end in a sad fading red, the body is black, the eyes, horns, feet, all dusky and of the same colour.

7. The whole body is black, yet in every incision of the back, it hath two white spots; & wings between yellow and red, adorned



with black and very white specks: but the bountiful Mother of all things, Dame Nature, hath chiefly beautified the borders of the wings, which have little teeth set like to saws at an equal distance one from the other, in the border whereof 20 blue studs pierced through with black lines, make a glorious shew.

8. Nature bred this with a chamblet mingled coloured coat, but it wants lively colours, for the wings are of a black reddish fading yellow and russet colours, and it is more beautiful for its soft skin, than for its gallant apparel.



9. This is for the most part of an ash-colour, but if you look on the inside of the inmost wings, there is nothing that can better represent the wings of a Turkey-cock; for the feathers that he flies withall, are covered by other feathers with scales; the eyes are black, as the horns are also, which are swollen like water-cats-tails.

10. The body is black, the shoulders are covered with yellow down, as is also the whole head; the horns are yellow also toward the head, which appears the sadder by a spot of a dark red; many round pearls set at just distances, do make the outward skirt of all the wings to be more graceful: but within side they are fouled with very black spots like lintels. But as the part is less comely outwardly, so the inward part of the inmost wings, shining with a whitish green, with silver spots upon it, shines gallantly: and those spots that seemed outwardly round pearls, seem inwardly pure refined silver.



11. It holds forth a rare list of oriental Pearls shining in blue, the upper wings being of a flaming yellow, shew like fire painted with six most black guards, the root of the inmost is black, then they shine from yellow to a fiery colour; the body is downy with darkish hairs, and the horns and feet are of the same colour.



12. It is wonderful beautiful, the wings are light blond-colour, dipt with black spots, they shine with smal long beams disperfedly drawn like threds to the very outmost of the coat, and this is adorned within with golden crooked lines like the Moon, being it self a murry, nicked on the sides like a Saw: the body is purple coloured from black, the eyes shine like gold, the feet and horns are black.



13. The body and wings appear black, upon the black wings, jagged in the circumference, first hairs grow, then borders, and lastly golden studs: also the small eyes in the black head are tintured with gold, but the horns grow forth with spots white and black, and end with a small very black knob.



14. It much delighteth in the curiosity of the decking of it; the body is rough and blackish from white, a black eye, and a white pupilla, about the bald eye you shall see a circle almost white as snow, the horns are the same with the former, the outward face of the greater wing is known by the flaming colour, golden lines being drawn upon it, with four dinted skirts; about the end of it three round pence set triangular, do adorn it. But the inward face of it seems most pleasant, with divers golden scales and studs put like a coat of mail, and tyles of a house: also a golden line beaurifies the utmost part of the wings. It represents a Peacock very much by its wings, and as that is, so hath it a proud and gallant body; the feet and legs are somewhat black, (lest it should be proud of its feature) the snout is like a spiral line made up like a Maze.



15. This hath also a hairy beak wreathed up like a vine rendrel; it is inwardly ash-coloured, and outwardly a faint gray, the wings are prickly, jagged like bats wings, some dun lines do outwardly part these, inwardly six black studs do much set them forth.



The outward wings of all are a dark green in sight, which some spots and pieces of white and yellow do beaurifie; the inward are perfectly red, being sprinkled with ten most black spots: the belly shines with eight yellow scales; the back is red inclining to yellow, and the tip of the tail is a light blue. The rough shoulders are commended by a yellow Moon drawn downwards, a white silver coloured apple makes the red eyes more sharp.



1. The eyes seem yellowish, the horns a decayed russet, the wings and all the rest of the body are a pale yellow; the inward wings are marked outwardly with one only full yellow spot, but inwardly they are tintured with a certain black spot upon a watry green; the back is blackish from a blew, the belly is yellowish, it proceeds from an *Aurelia* coloured with gold.



2. The second is not so pleasing a colour, the inward wings from a fading blew, decline to a Crane colour, and end as it were into a lead-colour, the outward wings are blacker, noted here and there with dark spots, and the body seems to be the same, it flies rudely with dented wings, and retched in the borders, and as it were prickly, and like a mourner of that kinde, it never comes forth but in mourning apparell.



3. We have painted out this, as it were stiffe and raising it self with the wings lifted up, it hath also prickly dents, but the outward wing from a pale yellow is marked with the black pieces; but the next part of the inward wing from the root is dark black, the middle part is pale, the last part is whitish, chequered with right and thwart fibres; the body appears dusky, the eye is black as pitch, the horns are black.



4. This is distinguished two waies; for when she opens either wing to ballance her body, the body shewes black, and four dark wings fastned to it ridged as it were with a black pencil, and ending in a shining rusty colour; but when it sits on flowers and lifts up the wings, the first wing is yellowish, adorned with a comely round spot like a target, the colour whereof is pale, the boss of it black, the outward circle citron coloured; the belly, and breast, and the whole face are white; the black horns incline toward a yellow.



5. It seems inside and outside all alike; the head and wings look pale; the body is wan, as also the horns; the eyes are flaming red, the shoulders are hairy with a pale down.



When it stretcheth its wings towards you, it appears a shining sandy colour, like herb dragon, with black spots: the body also if you see the back, seems a watry black, the belly somewhat more dark; they eye is black, clear with a white or whitish apple; the horns are black as a crow, the wings from you are of an unpleasant brown, and of a decayed Weefil-colour.

7. The



7. The jagged wings represent a fire-stone, shining with bristle coloured little veins, and the skirt also being sprinkled with black spots; the whole body is of a shining black but that white points divide the horns, and in the black forehead golden eyes twinkle after a sort.



8. This hath the same kinde of body, but the horns are reddish from yellow, the wings appear changeable, marked with divers pleats, ridges, borders, skirts, of many colours: all these colours are sad and dull to the eye, they want all clearness and varnish, and are pleasant only in their mixture, placing, and number; in some places they represent a smoky flame, elsewhere an unpleasing dark colour, and a fading red; and the rubies included in the last border in white semi-circles are nothing lively.



9. The outward wings are spotted with dirty muddy spots, about the last part they are adorned with a black target, the middle whereof is set forth with an ivory point: the inward wings have four such targets, but augmented with a yellow circle besides; the two middlemost are of a fit magnitude, the two outmost are very small; the body of this creature is a whitish dark, the eyes that stick out are black: but if you look upon the inward part of the inmost wing, they look smoky, and they are very beautiful, with six gilded leaves curiously disposed.



10. The head is a pure white, but some dusky and black spots adorn the milky wings, the back and sides are red from yellow, 9 or 10 black spots put under the cuts do adorn them.



11. In proportion, and almost in colour and form of the body it represents the Eagle amongst birds of prey. It hath narrower wings than other Butterflies, it hath as it were a broad feathery tail, the inward wings are not warry coloured, like the rest of the body, but red from yellow, or of a flame colour; it hath a crooked nose like the Eagle, a belly hoary, the horns are great and strong, of the same colour with the uppermost wings; the eyes are pretty well prominent, black, with a pupill white as snow.



12. This hath the same form, it only differs in colour. The body is ash-colour, the tail is black, and the back is something silver coloured; the wings are long and blackish, and polluted with little black spots, the inward wings appear dusky dark coloured; both these kinds of Butterflies are wonderful swift, and dare for flight to contend with the Eagle.

13. This



13. This is the swiftest of all, and hath shoulders seeming of a yellow moss colour; the wings are white as milk, in the extremities of them they are marked with five or six dusky feathers, the middle of the yellowish back is adorned with a cole black spot, of both sides two downy extuberances are thrust forth, the rump is compassed about with a certain black down, it will fly as fast as any Swallow, and indeed is swifter than any Bird.

We have seen but eight of the smaller kinde.



1. The first parts of the inner wings are of a full bright shining scarlet colour, and delicate red, but the outward wings represent a light purple, mingled of black and red, and drawn over with some snow white spots, the rest of the body is black, even the branched horns also.

The smaller Day-Butterflies.



2. This is silver colour at the roots of the wings, which afterwards are purple coloured from blue; the uppermost wings are graced inwardly with two black white studs; the body is full of dusky spots; it hath six purple feet, three put forth on each side; it hath a crooked bill; out of the head four small horns break forth, besides the two long ones.



3. If you should see this fly, you would say that the wings are of a decayed purple colour passing to a lively blue, and all plighted severally, but inwardly there are round eyes, they seem more gray and cankered; the head is blue from green, the body is deckt with dusky and white faces; the eyes seem very black, and the apples of them very white:



4. It comes in a pleasant habit, with wings set with eyes, that are of a most heavenly incomparable blew. The most perfect artificer Nature it self made it all eyes; that you would say directly, that *Argus* eyes were not set into the Peacocks tail, but into the wings of this Butterfly, which she doth stretch out against the Sun with no lesse pride than the Peacock doth, and (by the heavenly colour which she excels in) she is almost able to shame the Peacock.



5. The body is of a Crane colour, the upper wings are green in a white stalk; in the middle they are yellow and ash-colour, the inferior wings are at the root of a dark green, otherwise whole, but inwardly they are sprinkled often with spots of an unpleasant green; the eyes are black, as are the heads of their horns.



6. It hath round bunched smooth shoulders, which are of the colour of ashes mingled with ink, the body is full of cuts, and is of an ash kinde of colour; it hath narrow wings, and the utmost are of a Crane colour shining with some exceeding bloud red drops, the little head, the feet, the horns are like the body in colour.

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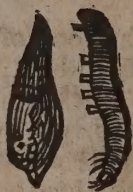
7. You



7. You would say, that this is kin to that is bred of *Gimny* pepper, and setting aside that it is lesse and more black in body, and the silver colour of his upper wings, it hardly differs from that.



8. All the wings are faint clay colour, or rather shining with a pale yellow, with some brown spots, and others that represent old cankered colours, the little eyes are black as a raven, otherwise it is all yellow.



9. All the wings are painted with white and gray like sea shell-fish, the borders are rounded, and deckt with white lines running through the middle with indentures.



10. This hath wings like Perwinkle shells, set with studs, it is mingled colour of a white and obscurered, and doth set forth to us the unspeakable power of God in the diversity of its colours.

Of the use of Butterflies.

He that beholds the forms, clothing, elegancy, and rich habits of the Butterflies, how can he choose but admire the bountiful God, who is the Author and giver of so rich treasure? wherefore art thou proud in decking thy self, and takest so much delight in thy own beauty? possess thy temporary fading goods without envie, for know that there is no Butterfly but is as beautiful and pleasing, and for the length of their life they have a more constant comeliness than thou hast: thou hast it may be an incredible agility of body, and numbleness in running, but yet O man if thou shouldst exceed all men, thou canst not equall a Butterfly. But you will reply that your cloathing is incomparable, and that you can boast of the *Persian* and *Tyrian* silk, of the best purple dyes, brought unto you by shipping: truly should you but see the rich robes of any Butterfly, besides their purple dyes, and the rows of pearls, and the borders set with diamonds, rubies, the pyropus, opals, emrods; if you did but see and consider seriously the elaborate composition of their futures and joynts and the imbroidered work here and there, of fine divers coloured twine silk set with studs and eyes of gold and silver, thou wouldst let fall thy painted tail like the Peacock, and casting thy eyes down to the ground from whence thou wert made, thou wouldst learn to be more wise. It may be thou wert born at first in a house of clay and mud walls, or else in a palace built of polished stones; but some Butterflies are born in their houses that are the *Aurelia* like to pure gold, and exceed *Attalus* for the excellency of their birth, and delicacy of their apparel. Learn therefore O mortal Man, who ever thou art, that God that is best and greatest of all, made the butterfly to pull down thy pride, and by the shortness of their life (which is of no great continuance) be thou mindful of thy own failing condition. Wert thou as strong as *Milo* or *Hercules*, and wert fenced or guarded about with an host of Giants for force and valour; remember that such an Army was put to the worst by an army of Butterflies flying in Troops in the air, in the year 1104. and they hid the light of the Sun like a cloud. *Licosthenes* relates, that on the third day of *August*, 1543. that no heath was left by reason of their multitudes, and they had devoured all the sweet dew and natural moisture, and they had burn'd up the very grasse that was consumed with their dry dung. Also in the year 1553. as *Steidanus* reports, a little before the death of *Mauritius*, the

the Duke of Saxony, an infinite Army of Butterflies flew through great part of Germany, and did infect the grass, herbs, trees, houses and garments of men with bloody drops, as though it had rained blood. But it may be thou art in love with some female beauty, and desirest to please her; O fool, remember the fate of the *Phalena* Butterfly, which being invited by the light of the candle, as by a fair beauty, is consumed by the flame it fell in love withall: and rejoicing like the *Pyrausta* bred in the fire, removing but a little from it is presently dead. And thou great Astrologer, who makest *Aries* to be the forerunner of the Spring, rather adore the Butterfly that is a certain messenger of the Spring, and a more sure prophet than your horned Ram. Would you allure fish to your hook, and catch them? hear what gallant baits are made, as we finde it in the *Tarentine Geopon*. Take 1 ounce of the venomous dung of Butterflies, Anniseed, Goats-milk cheese, Hogs blood, Galbanum, of each half an ounce, Opopanax 2 drams, beat them all diligently, and powring on good sharp Wine, make Troches, dry them in the Sun and keep them for your use. Castrels, and almost all birds of prey are freed from consumptions by feeding on Butterflies, and grow very fat thereby. *Nicolaus* in a composition of some powder, makes mention of burnt Butterflies; by which words *Turnebus* understands Butterflies that fly to the candles: they cause urine exceedingly, as almost all Insects do, but with less danger: moreover, since they feed on dew alone, as do snails, and abhor to meddle with sharp corroding or stinking things, or such as have any venomous or malignant quality in them; truly the Colledge of Physicians are too wayward that dare prescribe a Spanish fly inwardly, yet never made an essay to know what force there is in Butterflies. *Plinius* saith wisely; *That our greatest knowledge is very small compared to that we are ignorant of*: for some small creatures upon the earth are despised, whose force, if we did know it, we should praise to the skies. You therefore sons of *Aesculapius*, search out the vertues of Butterflies to be used inwardly and outwardly, for the health of the body; for had Butterflies been useless, surely God would never have set them forth, bestowing so great liberality upon them. But since they are not only for a remedy for us, but may do us much hurt, being inwardly taken in too great a quantity, as being poyson; I shall shew how that may be prevented, and driven off, if *Ardoyus* deceive me not. *Phalena* or night Butterflies, such as fly at candles at night, it may be were accounted of ancient time amongst dangerous medicaments, for the same reason that Toads, Bats, Owls, Howlets and Gnats were; for they held that all living creatures that labour in the day were safe to be used; but night-workers most unhappy and accursed. *Pliny* commends a Goats liver to drive them away, yet he shews not the means to use it. But if night Mothes go into a Bee-hive and trouble Bees in the night, bury dung mingled with the marrow of an Oxe, and by the smell thereof these unquiet disturbers will presently fall down. *Columella*. *Palladius*, in April, (for then they commonly do most hurt) places a brais vessel between the hives, that is high and narrow, and puts a lighted candle in the bottom of it, and they will come in there for love of the light, and there they are half burnt, or choaked by the smoak in the narrow vessel. Bitter vetches are held amongst edible herbs, to prevail most against Butterflies; others drive them away with smoak of Gith and Hemlock, as *Rhasis*: others hang a horse tail pulled off, upon the door, and they wittily believe that Moths are kept away thereby. Thus much I had to say of the divers use of Butterflies; who though some despise them, yet are they of great use and admirable.

CHAP. XV.

Of the Glow-worm.

THE Greeks have many names for this Insect, for from the shining of the shanks and tail, it is called *λαμπρίς*, *πυρλαμπρίς*, *κυσλαμπρίς*. *Suidas* calleth it *πυρλαμπρίς*; *Aristotle* *βόρυκος*; *Hesychius*, *πυρρολαμπρίς*: it is also by way of metaphor perhaps called from the Latine word *Scintilla*, a spark, *λαμπιδος*, & *πυρρός*. The same Author calleth the male of it *αἰθαῖς*, because it is *καυοῦ* *πυρρός*, but the female cannot be so called: some improperly call it *φάλανα*, for it is one thing to cover the light, another to carry light with it. Those which *Aristophanes* calls *μύμνις*, some interpret *Cicindelas* or Glow-worms, but upon what ground let them judge.

The Latines call it *Cicindela*, *Nocticula*, *Nitedula*, *Lucio*, *Lucula*, *Luciola*, *Flamis*, *Venus*, *Lucernuta*, *Incendula*, as appears out of *Cicero*, *Pliny*, *Scopas*, *Agricola*, *Varro*, *Festus*, *Plantus*, *Scaliger*, *Turnebus*, *Albertus*, and *Silvaticus*. In Arabick they are called *Allachatichi*, that is to say, birds flying by night: in French *Ver luisant*, *Mouch claire*; of the Germans some call it *Zinduerel*, others *Liegth mugk*, i.e. a shining fly, and *Zindwurmle*, speaking of the male. For in some places of Germany the male Glow-worm, that is that which flies, doth not shine at all, but only the female called *Grass-wurm*, *Gugle*, and *Feurcaeser*. About *Frankfurt* on the *Main*, from the time in which they do most frequently appear they are called *St. Johannis Kaeser*, and *St. Johannis Fliegen*. In Brabant *Ein light of nacht mugge*. In Italian *Luciola*, *Lucio*, *Farfalla*, although they grant this to be the name of other sorts of flies that come about the candles. In *Vincentia*, *Bissola fuogola*, i.e. a fiery worm: in *Cremona*, *Lucervola*; *Lombardy*, *Luiferola*; in *Spain*, *Luriergana*, and *Lutierrega*; *Polonia*, *Zknotnike*, *Chazazekik*, *Wnocy*, *Szwiecacy*; in *Hungary*, *Eyel twndoecklo*, *bodoratska*.

vilantso. In English, *Glow-worm*, *Shine-worm*, *Glass-worm* i. e. a glistering or shining worm. For here, as also in *Gasconia*, the male or flying *Glow-worm* shines not; but the females which are meer worms. On the other side in *Italy*, and in the County of *Heidelberg*, the females shine not at all, and the males do. I leave the reason to be discussed by Philosophers.

Their description.

Now the male *Glow-worms* have wings, the female are without; and that is in *Europe* it self. The male *Glow-worm* of *Europe*, is a little creature flying, having four wings, the outermost whereof are like leather, the innermost membranous, of a silver colour, transparent. The body is long, a little squat and flat, having five incisures or clifts: whereby it may be extended or contracted as occasion serves; the body at length seems to be longer than the wings, when contracted, shorter; the head broad, dunnish, flat like a hood; out of the forehead come two cornicles as out of one centre, near which the forepart of the head doth a little extuberate: not far off from the roots of the cornicles on each side rise little round swellings, shining like jet, which are instead of eyes, the head joined to a very short neck and body, of a blackish dun colour, it hath six feet in the breast near unto the head, the hinder of which together with the flanks are of a yellowish colour, the rest of the feet blackish, it is slow, and creeps as it were with a grave pace; the breast buncheth forth a little, the body between the incisures or clifts whitish, at the tail it hath two spots, on each side one like a Moon, in clearing out of which cometh that shining brightness in the night, like burning brimstone, as if it did sparkle in the air: this never is seen in *England*, or if it do live here, it shines not at all.



The female *Glow-worm* is a slow paced creature without wings, the breadth of two fingers in length (although in *Gasconia* *Joseph Scaliger* saw far greater and longer, those which they call *Luttarba*) of the bigness of the mean *Canker-worm*, to which it is not much unlike: the head small, flat, hard, black, long, and sharp toward the mouth; out of the end of which come forth two short black cornicles; it hath six feet, small, black, with three joynts, near the head like the *Canker-worm*; the body long, somewhat thick, and flat like a fillet, having twelve deep incisures, besides the neck which it puts out or in as it pleaseth, the parts between are like black plates heaved up when they go. All along the back there goes a very small whitish stroke from the head to the tail: the sides of the belly are of a bright, murrey colour, the belly and tail toward the end whitish, but the rump it self is black, by the benefit of which she lifts up her self and creeps, and by certain little forks that come out of the same, she hangs upon any thing; under this part she voideth from her belly a clammy and flaky excrement like honey, which being brought back to her mouth, she takes in again, and then going backwards she seems to draw out clammy threads, the which she devours the second time, and so by receiving in and calling forth she sustains her self. Those parts that are white do glitter in the dark with a wonderful splendor, representing terrestrial stars: insomuch that they may seem to contend with candle or moon light. This is worthy observation, that that so bright lustre expires with the life; where then is that perpetual light which some foolish naturalists so foolishly and impudently prate of? some of them I have seen sometimes with wings, and sometimes in the fields, flying up and down in the streets and wals of the Cities.

At *Vincentia* in *Italy*, they say there are those somewhat bigger than ours; all over black; else they differ not at all.

They feed upon herbs, they continue long in copulation, as *Julius Scaliger* (a great Philosopher of our times, not behinde any of the Ancients) hath diligently observed; whose words are these: *Cicindela volantem in coitu deprehendi, &c.* I lighted upon (saith he) the *Cicindele* or *Glow-worm* flying with her male in the act of copulation; the male being touched did not refrain, they were put into a box with holes in it all night, the next day the male stuck close; at noon the male let go and died. After which time, about the evening many eggs were laid by the female, which within the space of twenty hours went away alive. This story *William Brewer* an Englishman, a learned man and my good friend affirms for truth, being an eye-witness thereof, seeing them once in the act of generation. They are long in the act, and so bring forth many insects, this the Philosopher confirms speaking of Insects thus in his 1. Book de gen. cap. ult. συμπλέκει γὰρ πολὺν χρόνον, *Shee tarries long in copulation, but afterwards brings forth speedily*: I could wish *Scaliger* had took notice what creatures came from those eggs, for so the story had been more perspicuous. Though yet according to the course of nature it be easie to judge. For what could come out of them, but those small *Erucæ*, black, thick, and rough, of which *Arist. hist.* 5. 19. saith those *Glow-worms* without wings are generated. Of these then come the unwinged *Glow-worms*, and of them with some alteration the flying *Glow-worms* called *Bostruchoi*. From whence it is to be noted, that either *Aristotles* copy is faulty, or that the interpreters have committed two errors; they have altogether left out the word *μελαίνων* (which makes so much for the clearing of the story). Secondly, out of those being changed they say come those (which *Gaza* translated) *Cirros*, altogether against the minde of the Philosopher, if the Greek copy be not corrupted. For so runs the Greek, *Ἐκ δὲ μελαίνων τῶν αὐτῶν ἔστι δασύων, &c.* Out of certain black rough small worms cometh the *Cicindele* without wings; out of which in the second place being altered into a *Chrysalis* cometh the flying *Glow-worm*; and out of them in the third place those which are called *Bostruchoi*. But what

Insects

Insects those should be which of the Greeks are so called *βίσπυγες*, is not yet known, I believe there is not much difference between them and the former. *Ephesius* a Greek Author a Commentator on *Aristotle*, saith that the *Bostruchoi* are generated of the Glow-worm, and are called by the countrey people *Cicca* or *Plata*; as *Niphus* translates *Ricini*, i. e. *Tykes*. Therefore in the judgement of *Ephesius*, that *Bostruchoi* or *Ricini* take their original from the winged *Cicindele* with some alteration. But of the *Ricini* or *Tykes* in their place. *Calius* l. 9. *Antiq. lect.* c. 4. *Cirrhum inquit dicerem, &c.* I had rather call the *Cirrhus* such a worm as that is, which according to *Dioscorides*, is of colour between black and white; but what that worm is, neither he nor any man else doth tell us.

I wonder at *Cardane*, who will have this *Cicindele* to come of the *Crabrones*, ascribing their splendor to the polishing of the outward skin. *Ex Eruca in Crabrones, &c.* From *Eruca* they become *Crabrones*, or which is more likely, from *Crabrones* they become *Erucae*. Forasmuch as the Caterpillars called *Erucae* are bigger than the *Crabrones* or Beetles, and do shine more dimly, as it were spent with age, and then is it probable that when she ceaseth to fly, she layeth eggs. Here *Cardane* confounds all. For of the *Crabrones* come the Glow-worms, not of them the *Crabrones*. Besides it is not the smoothness of the skin that makes them shine, as he overhastily concludes, neither do the wings cause it, which of all the rest of the parts are most sleek: what *Cardan* means by his last words, I cannot tell. But of all the rest *Baptista Porta* and *Hesychius* were grossly mistaken, who ascribe their original to the dew or tow.

They appear from the middle of June to the middle almost of September. Which *Pliny* expresseth in these words: For before forrage is ripe, or after it is gone, they are to be seen: and elsewhere, when Glow-worms appear, it is a common sign of the ripeness of Barley, and of sowing Miller and Pannick. But this must be understood of the Countrey and place that *Pliny* then lived in. In all Countreys they have not the same time of Barly harvest, nor of sowing Pannick and Millet, though *Mantuan* sang to the same tune:

*Then is the time your barley for to mow,
When Glow-worms with bright wings themselves do show.*

Yet as I said before, the shining comes not from their wings. They shine not before the twilight in the evening, as *Politian* shewes elegantly:

*Then they renew their labour, till at night,
The little Glow-worms shine most clear and bright.*

Pliny calls these glittering Flies, earthly stars; *Nature*, saith he, crying out and speaking to countrey people in these words: Clown, wherefore dost thou behold the heavens? why dost thou seek after the stars? when thou art now weary with short sleep, the nights are troublesome to thee. See I scatter little stars in the grass, and I shew them in the evening when thy labour is ended, and thou art miraculously allured to look upon them when thou passest by; Dost thou not see how that a light like fire is covered when she closeth her wings, and she carrieth both night and day with her: So saith *Pliny*. Hence it is manifest that the shining doth not alwaies shew it self when she flies, though it shines forth both at her sides and thighs, because it appears not but to those that see her wings wide open, and lifted up, for where the wings are closed all the light is darkned. This flying Glow-worm, *Antonius Thylesius Bonfentinus* described elegantly in these verses:

*This little fly shines in the air alone;
Like sparks of fire, which when it was unknown
To me a boy, I stood then in great fear,
Durst not attempt to touch it, or come near.
May be this worm from shining in the night,
Borrow'd its name, shining like candle bright.
The cause is one, but divers are the names,
It shines or not, according as she frames
Her self to fly or stand; when she doth fly,
You would believe 'twere sparkles in the skie,
At a great distance you shall ever finde*

*Prepar'd with light and lanthorn all this kinde.
Darkness cannot conceal her, round about
Her candle shines, no winds can blow it out.
Sometimes she flies as though she did desire
Those that pass by to observe her fire;
Which being nearer, seem to be as great,
As sparks that fly when Smiths hot iron beat.
When Pluto ravish'd Proserpine, that Rapes
For she was waiting on her, chang'd her shape,
And since that time, she flyeth in the night
Seeking her out with torch and candle light.*

Those that are without as well as they that have wings do send forth such a bright light, that by it you may read a great print. In this also they surpass Moon and Stars, for that clouds and darkness soon eclipse their light; where it is so far from obscuring the lustre of those, that it rather increaseth it.

Thus far of those Glow-worms which are found in Europe.

Amongst those that are found out of Europe, that which the Inhabitants of the lesser Spain call *Cocuias* take the first place, because it yeelds a greater light, carrying a little torch before men in the dark. In Greek it may be called *καπαδαυμς*, because the light comes not from the tail but the head. It seems to be a kinde of Beetle, six times as big as the flying Glow-worm is

with us, not so great as a hazle nut, saith *Maïolus*, but sometimes bigger than two hazle nuts, in length two inches, and as thick as a mans little finger. *Cardane* saith well, that some of them are as big as the Hart-beetle; it hath a long head joyned to the body, the forepart whereof hath as it were in the middle a black spot in a manner triangular; it shoots forth short horns; the eyes are very big (so are the horns) standing out and black, and are placed near the mouth; the rest of the head is of a bright red, except it be two golden studs or bosses hard by the neck, out of which the glittering rayes, especially when it flies and the wings are opened, do issue with marvellous glory; six black feet come forth of the breast: the Case wherewith the silver wings are covered, appears of a chesnut colour; the body hath ten incisures or clifts of a blackish ash-colour. This Cicindele, together with the



Figure of it came from a most skilful painter, who had taken strict observation of it both in the lesser Spain and in Virginia. In Hispaniola they are almost all the year long, for they have seldome any winter.

In the Commentaries of Navigation this Glow-worm is thus described: The *Cocnio* is four times as big as our flying Glow-worm; it is of the kinde of Beetles: the eyes whereof shine like a candle, with whose brightness the air is so enlighthened, that any man may in his chamber, read, write, or do any necessary business. Many of them joyned together make such a light that an army may march by them whither they please, maugre all winds, darkness, rain or storms whatsoever. Their wings being lift up and also towards their shanks they shine very gloriously: the Inhabitants before the Spaniards came thither

made use of no other light, neither within nor without their houses. But the Spaniards (because these lightsome creatures do by little and little lose their light with their lives) do use within doors about their business lamps and candles. But if they are to march forth against an enemy newly arrived, they make use of them to conduct them, and each souldier carrying four of them about him, divers waies couden the enemy. For when as that noble traveller Sir *Tho. Cardane* (that compassed the world) and *Robert Dudley* Knight, son to *Robert* Earl of *Leicesters*, first landed in the *Indies*, and that very night that they came ashore, saw hard by in the woods an infinite number of moving candles and torches as it were beyond their expectation, they thinking the Spaniards were come upon them unawares with guns and pistols and much light, speedily berook them to their ships. Many other Insects of this kinde are there to be found. But because this seemeth to be of most account, and to have the preheminnence above the rest, *Oviedus* hath left the rest undescribed. The *Indians* use to rub their faces with a paste made of them, that so their bodies may seem all of a flame. How this may be, since as is said before, the light vanissheth with the life, I do not see, unless it be that the light may endure a while after they are dead, but that long it cannot remain is manifest by experience.

The *Indians* finding so great need of them, in that they could not rest in the night for the Gnats stinging them (the which these Glow-worms being kept in the house did as greedily hunt after as Swallowes do Flies) and because they could not work by night without this lanthorn of nature, before such time as the Spaniards came thither; they bethought themselves of some means whereby to catch them; the which I shall shew partly out of *Peter Martyr*, partly from those reports of others which were eye-witnesses of the same.

Whereas the *Indians* were constrained by reason of want of light to lie all the night idle, they got them out of doors with a lighted firebrand and crying aloud, *Cucnie, cucnie*, they do so beat the air, that either for love of the light they fly to them, or for fear of the cold they fall to the ground; which some with leaves of trees, others with linnen rags, othersome with little nets made for the purpose detain, till they can come to take them with their hands.

There are other little flying beasts, which shine by night, but a great deal bigger than ours, and sending forth a far greater light. For they shine so bright that those which take long journeys make them fast by a way to their heads and feet being alive; for so they may be seen afar off to the astonishment of those that know not the matter: the women use no other light to do their business withall by night within doors but these. *Oviedus*.

There are yet other worms of another form, which give light by night, as we read in the Commentaries of Navigation. In the Island called *Hispaniola*, there are two sorts of worms which shine

shine by night. Some of the length of a mans little finger, slender, with many feet, glistening so bright in the dark, that a man may see all round about him for fifty or an hundred paces easily. That clear light shines forth only out of the clifts, or if you will the junctures of the body near the feet. There are others like to these in bigness, and altogether as lightsome, but only that their light issues from the head. Those things we finde in the histories of Navigation. But whether these *Cicindela* be of the kinde of of the *Juli* (as I think them to be): or whether they be like to ours, is not declared. But I guesse them so to be by the multitude of the feet they have; for the Author reckons them in the number of the *Scolopenders*; *Valerius Cordus* in *Dioscor.* makes mention of the *Scolopender* (as he interprets it) whereas it is indeed a kinde of the *Juli* which in moist places, and in rainy weather shine very bright. Such a one my friend *Brewer* found in *England* in the heath grounds, and sent the worm dryed to *Pennius*. But that every man may better understand it, I shal set down his own words: I twice found a *Scolopendra* that shines in the night (yet as I said they are kindes of *Juli*) in summer nights, of a shining hery appearance, in heath and mossie grounds. The whole body shines something more darkly than a glow-worm. He further adds, It once hapned that I came sweating home to my house at night, that I wiped my head in the dark with a napkin, the napkin seemed to me all over of a flaming fire; whereupon I wondered a while at this new miracle, all the lustre seemed to draw to one place, then folding the napkin together, I called for a candle, and opening the cloth, I found such a *Scolopendra*, which I had rubbed against my head, and had caused this itrange light like fire: Thus far *Bruerus* who affirms that it was like to the *Scolopenders* commonly so called in gardens, and under stones and earthen vessels, wherein women are wont to set their choicer plants or slips. All the Summer time and Autumn (saith *Gaudentius Merula lib. 3. memor. c. 61.*) in grassie ditches and without water when I was at *Lebetium* (which is now called *Samzarius fore*) I gathered little shining hairy worms in the night. The same I saw in the ditches about *Viglevianum* (which of old was called *Vergeminum*) as *Simon Puteus* and I were walking abroad in the evening to take the air. But what those hairy worms should be, unless they be a kinde of *Juli*, I do not know. There is another worm altogether unlike these of which we read in the *Book of the Nature of things*: There is (saith he) a worm like a star, which shines like a star in the dark, it is never seen but in great rains, and then it foretels fair weather to come shortly after. So great is the coldness of this worm, that it will just like ice put out the fire.

If a mans flesh be but touched with the slime of this worm, all his hair will come off; and whatsoever it touched therewith it changeth the colour of it into green. But all these he handleth untowardly, for he confounds the *Stellio* (which he here calls *Stella*) with the *Salamander* and *Cicindela*, and of these he maketh a very confused and imperfect History. Neither doth *Guillerinus de Conchis*, nor *Vincentius* (which transcribed all almost out of *Guillerinus*), in his obscure and dark tract where he reports this story, correct it. But these things are nothing to the *Cicindela*, and that which they write concerning the *Salamander* is other where amended. Hitherto of Insects shining in the dark.

Whether or no the Glow-worm being dead doth retain its splendor and shining, is wont to be a question. *Massarius* a very learned man writing on *Pliny* his 9. Book, saith it doth, and that boyes taking the Glow-worms used to put about their heads the shining parts of them; with which if the hands or other parts of the body be rubbed, they also will shine in the dark. But by the leave of so great and learned a man as he is, experience reacheth the contrary. For after the Glow-worm is dead, that part whereof which so shineth in the night, though not presently, yet within a few hours after is quite lost; and seems altogether to go away with the vital spirits: this is a clear case, from experience, and I have often tried the same. This I will grant: if a certain number of those that have no wings (for those that have, shine not but only when they fly) be but put into a clear Crystal glasse, so that the air may freely come at them, with a little grasse, they may perchance give light for the space of some 12 daies, if every day fresh grasse be put to them; but at the length as they languish and faint away, so the light by little and little is remitted and slackned, and in the end they dying (as before is said) it is totally extinguished.

Vainly therefore do some boast of compositions made of them, with which they will keep perpetual light, as they suppose (amongst whom is *Cardanus*) as if they would bring down the Moon from heaven. Others there are not learned only but unlearned also, who have committed these compositions to writing, whereby they might the better betray their own ignorance. Of this perpetual light *Albertus* makes mention, who in his Works gathers a whole bundle of flies together as it were into one body. And here now I will set down some of them that the Reader may be aware of them, and the vanity and levity of the writers themselves may be manifested. Some there are which take a great many Glow-worms, beat them together, put them into a vial of glasse and bury them fifteen daies in horse dung. Afterwards they distil them through an Alembick, and keep the water in a clear glasse. To this end *Gaudentius Merula*, who hath heaped up many things together from this and that Author, without any judgement, hath these words: Of these Glow-worms being putrefied, there is made a water, or a liquor rather, in a vessel which will wonderfully shine in the dark. Such a light doth this water or liquor give, by report, that in the darkest night any one may read and write, and do any other business as he pleaseth. Others left they should seem not to add to what is invented to their hands (for pregnant wits, unless they bring forth some novelty are not well) together with the Glow-worms digest the gall of the Tortoise,

of a Weasel, and Sea-dog, putting them in dung, and afterwards they distill them. This water they say far excels all other whatsoever in lustre. Others put whole Glow-worms in dung for nine daies to digest, others for three weeks, then throwing away the Glow-worms, they take the fat of them and keep it in a cleane glass for to use. Some yet more fondly take Glow-worms, and casting away their heads, they put to them the scales of fishes, and rotten shining wood, such as glissens in the dark, with the galls of Sea-dogs, and so distill them through an Alembick. Others promise confidently to make letters to shine in the dark, by pricking out the yellow moisture of the Glow-worm, and anointing therewith the paper, or painting it with the same liquor in form of a star, some rub them with the oyl of Linseed upon marble, and whatsoever you shall paint or write, they perswade us, may easily read in the night, be it never so dark; but let them believe them that have made the trial. Others after they have digested in horse-dung nine daies, take the liquor that is left in the bottome of the glass and write with it, and so think confidently to obtain their desire. *John Arden*, a skilful Chirurgion, an English man, walking after their steps, above thirty years ago left such a description of this perpetual light in writing: He gathereth a great number of Glow-worms, and shuts them in a glassen vessel well stoppt, laies them in dung fifteen daies, then puts the water he findes in the bottome of the glass into a cleane glass; to which he adds as much of Quicksilver, the dross being purged from it, and then he saith you must shut the glass mouth very close, and hang it where you will, and then for certain (as he affirms) it will produce the wished effect. Some have told me that this is very true, whom notwithstanding I will not believe untill such time as the experiment be made before mine eyes. These and many the like you may finde by readings, but what credit may be given to them is easily conjectured out of what went before. Hence then we may plainly understand how foolishly and vainly mans wisdom doth many times vaunt it self, and whither our wits may be carried, if not founded upon right Reason, the mistress of all Arts and Sciences, thunning with all diligence the uncouth rocks of opinion and self conceit.

How wonderful the works of God are in our eyes, none can be ignorant, who shall diligently consider this little creature and weigh its nature, and its light resembling that divine light. For who is he that beholds the vanishing light of this, that doth not fix the eyes of his minde upon Christ the lasting, true, and the chiefest light of the world; and doth not call to remembrance, that holy Spirit which doth illuminate our spirits in the most obscure darkness of our understandings? But this inbred light of the Glow-worm, or rather borrowed light which some seek to extract, others strive to imitate (as for example, *Albertus*, *Cardan*, *Merula*, *Vitalis*, *Mizaldus*) have shewed themselves very fools in my judgement. Neither have they been warned by the fatal end of *Salmones* or *Alladius*, who going about to imitate *Jupiters* thunder and lightning, were therewith by him struck dead, and so did reap a just reward of that their impious presumption, for they felt the force of true heavenly fire, who thought to counterfeit the like with a vain crackling. Even so the wits of these times, while they seek to extract this light, by their bold enterprise do violate the Deity, and while they would seem to adorn and set forth the glory of that his work, they rather detract from it and disgrace it. But we leave these to *Ixions* wheel, and proceed rather piously, and modestly to behold the majesty, wisdom, and divine light in this little creature. For he which shall go about fully to search the majesty of the Creator in these small creatures shall soon be confounded with the glory of it.

What necessary use the *Americans* made of them in their night journeys and business, before the *Spaniards* brought in the use of Lamps and Torchés, hath been said already.

But we that live in *Europe*, as we travelled by night (I remember) in *Italy* and other places, we took a great deal of delight in them, not so much because they dispelled the darkness with the beams of their splendor, but because they did illustrate the earth with their celestial light, which compared with the light of the Sun and Moon, were not to be despised.

Neither do they only please the eye, and instruct the minde, but they are good for the body in divers diseases, for the female *Cicindele* being put into the matrix of the mule, causeth the woman that bears childe with much danger, to be barren; saith *Kiranides*. *Cicindeles* being drank in wine make the use of lust not only irksome but loathsome, as *Benedictus* saith; the same also *Gilbertus* an English Physician, *Albertus*, *Nicolaus*, *Florentinus*, and *Rhasis* do confidently affirm. It were worthily wisht therefore that that unclean sort of Letchers were with the frequent taking of these in Potion disabled, who spare neither wife, widow nor maid, but defile themselves with lust not fit to be mentioned. *Rhasis* saith that the Glow-worms are very good for the stone, if beaten with oil, and therewith the place having the hair clipt off, be anointed, which will never suffer it to grow afterwards. *Bairus*. If they be beaten and put behinde the ears, they will divert and evacuate all Rhumes falling into the eyes and teeth. *Anonymus*. The Inhabitants of the Isle *Sorida* take a good sufficient quantity of them, and mixing them with fresh black wax make them into a mass, and lay it in the hot sands till it be half consumed away: of this mass of the bigness of a walnut, both young and old do take two hours before meat and two hours after; which do not only infuse heat into the obscene part, but vigour also. *Thevetus*. But this is not to be understood of the ordinary or common *Cicindele*, which as is aforesaid causeth sterility and barrenness; by these *Thevetus* meaneth those Glow-worms reckoned amongst the kindes of *Juli*, the which being taken in drink do after the same manner with the *Cantharides*, as *Merula* writeth, provoke both seed and urine. *Alexius* very highly com-

commends them for excellent baits to fish withall, being fastened to the hook. *Weckernus* saith that by a gentle decoction of them in a glass *Alembick*, is made a water very useful to that end. But I am rather of *Alexius* minde, the which experience also confirmeth.

CHAP. XVI.

Of the Locusts.

THE Locust is called of the Arabian, *Gieat*, *Gierad*, *Gerad*; of the Illyrian, *Kobilka*, *Bruck*; of the Slavonian, *Knonick*; of the French, *Sauterelle*, *Sautereau*, *Languste*; of the Spaniard, *Lagosta*, *Gasanhote*, *Gaphantoles*; of the Italian, *Cavalerto*, *Soliotta*, *Saltello*; of the German, *Henschreck*, *Sprinckhaen*, *Sprinkell*; of the Dutch, *Hyperlinck*; of the English, *Grasshopper*, from leaping upon the grass; of the Latine, *Locusta*, as some think à *locis ustis*; for that they scorch all places where they touch, and eat up and devour all things; of the Hebrew, *Arbeth*; of the Polonian, *Konick*; *Szarancza*; of the Hungarian, *Saska*; of the Greek, *ἀπὸ*, *αὐτὴ* τὸ *ἀπὸ* τῆς *ἀσάχου* ἢ τῆς *φύσεως* τῆς *αὐτῆς*, whence comes the diminutive *ἀνίσκος*, *Locustula*, vel *Locustella*, a little Locust. The Ionians call them from the number of their wings *Tetrapleurides*; that is to say, four winged creatures; others call them *Cornopas*, *Parnopas*, and *Pornopas*; from whence *Hercules* and *Apollo* were called of the Athenians *Parnopii*, because they drive the Locusts out of their countrey, as *Pausanias*, *Hermolaus*, *Calius Rhodoginus*, *Lilius Giraldu*, *Camerfius*, *Strabo*, &c. have observed. Notwithstanding the word *parnopas* (if the interpreter of *Aristophanes* deceives us not) signifieth that sort of Locust only which is easie to be handled with the hands. But before we enter into the description and division of them into their several kindes, I cannot but admire with *Marcellus Virgilius*, the workmanship of Nature, in which I know not, as I may so say, whether she did more seriously sport her self, or more sportingly labour. For who first of all is able to describe so many colours in one body? who is able to set forth so many divers shapes of bodies, goings, leapings, flyings. For some there are green, some black, some blue, some one part of them of this colour, on the other of another. There are those which are of another colour in their flight, then they seemed to be of before. There are some fly with one pair of wings, others with more; those that have no wings they leap, those that cannot either fly or leap, they walk; some have longer shanks, some shorter, and amongst these some have more and shorter joynts, some fewer and longer, some there are that sing, others are silent, as the *Seriphia*; some do no harm at all to tillage, so that children may take them up in their hands without hurt: others on the contrary are the pest and destruction of all that up growes through a whole Countrey.

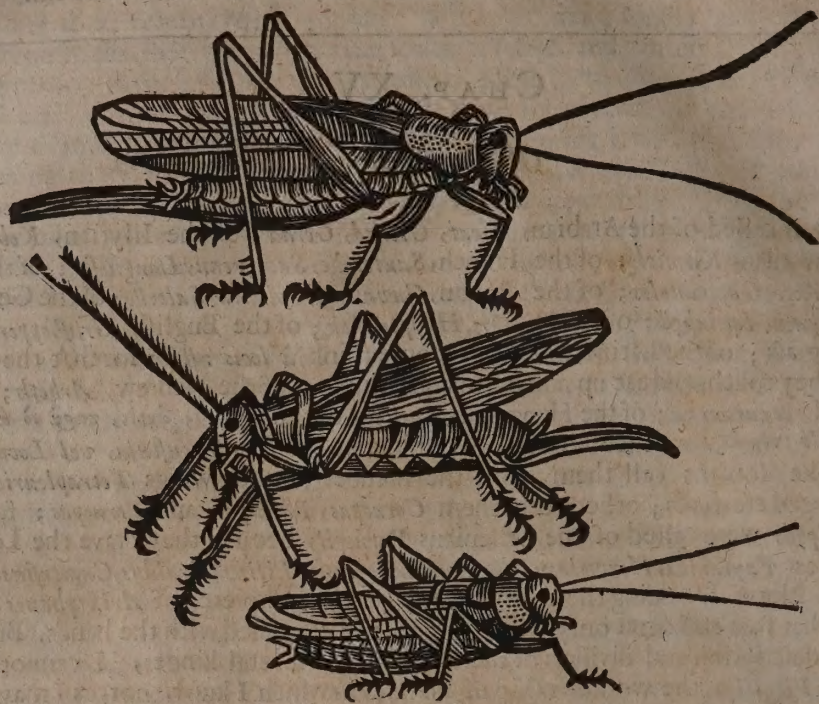
And as there are many kindes of them in nature, so their names were almost infinite, which through the neglect of Naturalists are grown out of use.

Now all Locusts are either winged or without wings. Of the winged, some are more common and ordinary, some more rare; of the common sort, we have seen six kindes all green, and the lesser of many colours.

The first of the bigger, hath as it were a grass cowle or hood which covers the head, neck, and almost half the body: the wings come from the neck underneath, of a greenish colour, speckled with a few small black spots, the back green, the belly dusky coloured, the tail or stem at the end blackish; it hath a great mouth, and strong big teeth, excellently made to devour the fruits withall. The second seems to be like this, but that the hood is fastened to the neck; the nose also and mouth are more red, and it hath greater spots in the wings. The third is of a green countenance, the shanks whitish, the tail blackish, the wings beset with greater store of spots, and about the edges of a pale red.



Now these are females, from whom the three males differ in this, that either in the end or above the tail they have two or three prickles or stings, and the middle of their hood appeareth more red.



The first sort of the lesser Locusts, called of the *Tigurines*, *Holtspecht*, is in body black, the utmost wings spotted, the innermost spattered with virmillion; the thighs brown or swarthy, with black lines curiously drawn up and down. Of the second the cornicles, eyes, and shanks are of a pleasant red, the thighs or shanks are also diversified with black lines, the wings speckled, the belly of a dark red upon yellow, all which do exhibit a very fine pretty creature. The third seems to be of a dark ash-colour, the cornicles very short, and the wings of an unusual length, longer then the body. The fourth is all over of a darkish green, but that the hood is set with two black lines, and the ends of the shanks are of a lively shining red. The fifth is a little lesser than the rest, but in ordering and variety of colour, more pleasant to the sight; the body, head, and feet are of a faint red, with green wings, and a golden lace drawn through the middle of the head very bright and shining.

All those of the lesser sort have wings as long or longer than their bodies, they have besides no sting or prickle in their tail, nor bear any stem; they are seldome seen in the corn but altogether in meadows and pastures, as I have seen them in *France*, and our Countrey of *Britannie*: I have seen only three kindes very rare, i. e. *Italian*, *Greek*, and *African*: they are called *Mantes*, foretellers, either because by their coming (for they first of all appear) they do shew the Spring to be at hand, so *Anacreon* the Poet sang; or else they foretell dearth and famine, as *Calius* the Scholiast of *Theocritus* have observed. Or lastly, because it alwaies holds up its forefeet like hands praying as it were, after the manner of their Diviners, who in that gesture did pour out their supplications to their

their

their Gods. Of this *Italian Mantis* (whose figure we do here represent) *Rondeletius* makes mention in his book *de Piscibus*, in these words: *It hath a long breast, slender, covered with a hood, the head plain, the eyes bloody, of a sufficient bignesse, the cornicle short, it hath six feet like the Locust, but the foremost thicker and longer than the other, the which because for the most part she holds up together (praying-wise) it is commonly called with us Preque Dieu, the whole body is lean.*



So divine a creature is this esteemed, that if a childe aske the way to such a place, she will stretch out one of her feet, and shew him the right way, and seldome or never misse. Her tail is two forked, armed with two bristly prickles: and as she resembleth those Diviners in the elevation of her hands, so also in likeness of motion; for they do not sport themselves as others do, nor leap, nor play; but walking softly, she retains her modesty, and shewes forth a kinde of mature gravity. Though *Pennius* affirms that he often saw this kinde at *Montpellier*, yet in his papers he saith that he received the figure of it from the worthy *Antonius Saracenus*, a Physician of *Geneva*.

Another species of this *Mantis*, *Carolus Clusius* sent from *Vienna* exactly described, being brought thither out of *Greece*, which is like unto the former in shape and magnitude, but of another colour bestowed on it either by nature or the place where it lives; for it hath cornicles of a full yellow, the eye of hyacinth colour, the wings of a faint yellow, the rest of the body of *Amythist*, only that the feet shanks, as also the joynts of them were more hairy and white, and the claws of the fingers bended backward were black.

I procured one from *Barbary* that was brought out of *Affrick* with some cost to us, slender, five inches long, hooded, the head pyramidal, very long, out of which almost at the top came forth two little broad cornicles about an inch long, much like that *Turbant*, which the *Tur-*



kish Janizaries use with two feathers in it: a little below the root of it come forth two eyes standing out, great, and of a dark red, the body long, of a blond red purple; the tail like a Swallow two forked, four wings of somewhat an ash-colour, deckt with certain dunnish spots; the four former feet and shanks very slender; the hinder strong, brawny, and long, and by reason of the spots drawn athwart all along the thighs blackish. And this of the common or ordinary and winged Locusts, and of the rarer sorts shall suffice to have been said; unless the Reader shall think fit with me to add more differences of them. The face of the ordinary Locusts is fierce, long, wrinkled, fenced as it were with scales, which even cover the mouth: in the upper part they have teeth fastned that are broad, black, and very hard, with which they easily eat ears of corn, and scratch them with a great noise. The *Greek* and *African* Locust appears with a shorter

ter face, and the teeth are so weak that it can feed on nothing but the softest grass, and tops of hearbs. The common ones have very long horns, but the *Manti* have very short ones; they have a hard breast, gristly, strong, none of these almost is faint or weak. They have also a soft belly, long and pointed, but these have a hard full brawny belly; both of them have four wings that are skinny and membranous, as made of the fibres of nerves; for though the inward wing folded seems two, yet it is but one, when it is stretched forth: which deceived *Jodochus Willichius* in his Dialogue of Locusts, for his eyes deceived him, when he writ that Locusts had six wings, which is false. It is very pleasant to behold in some Locusts their thighs with six angles, exactly smooth in their void places, and artificially painted in their netlike weavings together: the ordinary Locusts have great eyes putting forth, whence *Athenaus* calls one *Ebulus*, lib. 10. c. nlt. *Ἀφελόρβαλον*, *Locust ey'd*; *Nigidius* said at large that Locusts could not see, as *Pliny* relates, lib. 11. cap. 37. yet have they clear eyes like glass, though covered with a horny membrane: Nature disproves this lie of *Nigidius*, which made their whole eye partake of seeing. As for colours, Nature that paints creatures, never was more bountiful in it, for though commonly with us they appear green, yet we see some of them red, yellow, crimson coloured, purple; and out of *Morocco* all white; and *Alian* saith, that in *Arabia* they are of a golden colour, lib. 10. c. 13. de *Animal*.

Their Copulation and Generation.

Concerning the copulation of Locusts, I rather subscribe to *Valeriola* (who hath searched diligently into their nature) than to *Aristotle* himself. They couple, saith he, (as I have seen) by the male getting upon the female, at what time he puts those two prickles that come out of the end of his back into the matrix of the female, and so they continue in conjunction very close and for a long time, in so much they can scarce with your hands be pulled asunder when once coupled, neither by leaping and motion, or any other way. The female being tickled underneath, moveth her womb very busily, and applying her self with the bottome thereof to the male, doth hold him for a long while, sometime with the opening of the matrix, sometimes with the shutting or closing of it again, augmenting the pleasure of her venery: for while the matrix is open the male gets into the bottome or farther end thereof; and when it is contracted or closed, she is delighted with the affriction and tickling of the womb and the passages thereof. Now there are to be seen two passages in the secret part of the female separated by a kinde of partition, and are covered over with a little thick cover, which in the outside is black, hard, and gristly, but within somewhat roughish, hairy and wrinkled; at the bottome of this the matrix appears whitish like that of Women.

Now the female bringeth forth (as *Aristot.* saith) the little stem that growes to her tail, being stuck in the ground, and then layeth all her burden together in the same place, not scattering up and down, but as it were like a honey comb. Hence proceeds a kinde of little worm in the likeness of an egge, included in a little earthly thin membrane, the which being forced open, out come the Locusts and fly abroad. But (by the favour of so great a Philosopher) they lay eggs indeed in the beginning of Autumn, though not of the fashion of eggs, as I have seen with my eyes, and have had them in my hands. The which feture is so tender, that with the least touch it is bruised to pieces. Neither is it laid upon the superficies of the earth, but somewhat deeper, and in the winter under ground: where in the winter they being perfected by concoction, in the subsequent year, almost at the latter end of Spring they come forth out of the shell or membrane aforesaid, wherein they were, being little blackish Locusts creeping up and down without either shanks or wings, which afterwards in a short time become bigger. They bring forth at the latter end of Summer, and when they have so done they forthwith die, certain little vermine breeding about their necks (as it happeneth to the Beetle) in the time of their bearing, which do strangle them. These dying after such a foolish fashion as they do, are yet able at their pleasure, any one of them, if it do but fasten on his chaps, to kill a Serpent. In a wet Spring the eggs perish, but in a dry then there is a great increase of them. Some will have them to be brought forth and to dye twice a year, (in the number of whom is *Willichius*) that is to say, at the rising of the *Pleiades* they come forth, and dye at the setting of the *Dog-star*, then others to be brought forth. Some say at the setting of *Arcturus*. In mountainy places, and of a thin air there breed no Locusts, but in plains and places full of cliffs and chaps; nor do they lay their egges upon the superficies, but in the chinks and caverns of the earth, both that they may be the better concocted, as also better preserved from cold and rain.

That they should be generated of the carcase of a Mule or Ass (as *Plutarch* reports in the life of *Cleonides*) by putrefaction, I cannot with Philosophers determine; first, because it was permitted to the Jewes to feed on them: secondly, because no man ever yet was an eye-witness of such a putrid and ignoble generation of Locusts.

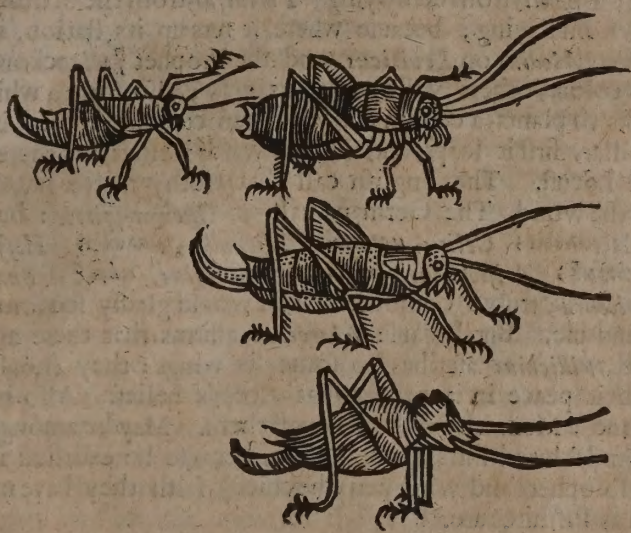
Their Death.

They dye several waies. For the male after copulation (wherein he carries very long, and as it is probable, till all his radical moisture, and all his spirits at once are exhausted with his venery) presently expires. As in like manner all the females as soon as they have brought forth, whether with vehemency of pain, or numerous feture, I know not, the which being very great cannot chuse but spend and exhaust the strength thereof. Oftentimes also great swarms of them being lifted up into the air by the wind, which afterwards failing, they fall down into the sea, or standing lakes. They are reported to pass over to far remote shores, continuing their journey for many daies together, they are to be seen very great, and also they make such a noise with their wings, that you would think they were a flight of birds, and they darken the Sun. They

They come oft-times out of *Africk* into *Italy* in great numbers, biting and gnawing all with their teeth, even the doors of their houses. Neither do they hurt the corn fields, pastures, meadows, The mischief gardens, orchards, with their biting only, but also with their black, burning stinking dung, and especially they do. cially with their cholerick and bitter fume or spittle, the which (as *Valeriola* witnesseth) they vent in great abundance out of their mouthes as they bite. Yet notwithstanding they are not venomous, the *Parthians* and certain of the *Ethiopians* live of them, esteeming them very dainty meat. They are said in *India* to be three feet in length, their shanks and thighs when they are dry serving for sawes to saw withall. That sound or noise which they make, *Aristotle* saith is made with the rustling of their wings. But according to *Pliny*, it seems to proceed from the hinder How the Locusts make a noise. part of their head. But I suppose it is caused three manner of waies, by the grating of their teeth as they bite the herbs, with the clapping together of their wings as they flutter up and down with them, with the rubbing of their hard neck and shoulders one against the other whilest they leap and themselves like fouldiers, armed with helmet and brestplate, are used to do.

Now we are to speak of the Locusts which have no wings, and those especially are *Bruchus*, *Attelabus*, and *Asellus*.

The *Bruchus* taking his name from biting and devouring, may be called a Locust without wings. And τὸ βρῦ. destroying and devouring the herb of the field. Four sorts or species of them are here presented καὶ, i. e.



to view: the first is of the male, the second females. The Male hath a pale bloud colour circle or collar about his neck, under which hangs a double hood of a light yellow, and green, mixt; from the back to the tail it is set out with six leek coloured plates running across from the back to both sides. The belly, which is sufficiently great, with the three prickles of the tail, are of the colour of an herb newly prest out of the earth, of a yellowish green, as also the thighes, face and cornicles; but the shanks seem reddish. The first of the females is all over eruginous, but for a bloud colour line running over the back from head to tail: it is without a prickle growing in the stem or tail; it seems also to be girt about with ten green plates, or rounds. The second is almost

all over of a light red and brown, the belly a little yellowish, the upper end of the stem it hath two prickles. The third hath a head resembling a hogs or sea-calfs head, in stead of cornicles it hath a little beard on each side of the nose; the two bunches or swellings on the top of the forehead are like to the ears of a Bear, and it hath two prickles upon the stem very sharp and brown, of the same colour with the rest of the body. These did that famous knight Sir *Edmund Knivet*, freely send in picture to *Pennius* for the enlargement of this work, for he is a Knight that is very courteous to learned men, and singularly noble both by descent and vertue, and famous for his curious search into the knowledge of natural things. The Latines call them *Bruchi*; the Moscovites, *Chrzaft*; the Polonians, *Knomic*, the Germans, *Ramp*; the English, *field Crickets*. *Attelabus*, is a small Locust, saith *Hesychius*, *Pliny* thinks it one of the smallest kinde; *Hierome* on the 3. chapter of the prophet *Naum*, calls the little off-spring of Locusts *Attelabi*; *Aquila* more significantly interprets them devourers. A little Locust is said to be the mean between a Locust and *Bruchus*; it hath such little wings that it is reputed to have none, and seems rather to creep than fly: for this cause wheresoever it is bred, it bringeth all as it were to meal or rust, by grinding and consuming. It seems to some to be of the kinde of *Bruchus*, till the wings grow forth, and then it growes into the number of Locusts. *Stephanus* derives *Attelabus* from *ἀττελ*, because the wings seem so small as if it had none. The *Attelabi*, as *Aristotle* saith, do breed in fallow fields, as Grasshoppers do; they bring forth, and when they have brought forth they dye as other Locusts do; their eggs are spoiled by wet Autumns, when the waters increase too much; but in a dry Autumn, the *Attelabi* increase more, because their eggs escape drowning. *Asellus*, or *Ὠρέ*, as *Dioscorides* calls it, hath its name from its slow motion, it hath no wings, thick legs, but short withall, not like other Locusts, whence it seems rather to creep than leap, it hath a great belly hanging down, as if it were made to devour corn. This Locust it may be is called in Scripture *אִתְלָבִי*, *Nicanor* calls it *ואטלבי*, and *אסלוב*; though, as *Clitarchus* saith, in the Dialect of the *Ambraciata*, all Locusts are called *αδσαν*, because they eat corn with a noise of their teeth. *Franciscus Stancarus* writ a little Tract of seven kinds of Locusts, according to the Scriptures and Rabbins; but he described not those four which are numbred amongst clean birds that the Jewes might lawfully eat; those four were *Arbeth*, *Salaam*, *Chargel*, and *Chagab*, which the Chaldeans call *Gebah*, *Rhaschen*, *Chargola*, *Chorgeba*; and the Greeks call them *ἀκείδω*, *ἰπιδιμαγ*, and *ἀνιλας*. *Arbeth* is a kinde of Locust, called so from her fruitfulness, as *Kimbi*, *Munster*, and *Broughton* observe. The *Septuagint* have translated *Salaam*, *ἀνιλας*; *Hierome* doth not rightly call

call it *Scarabeum*, for it is a flying creature, creeping with four feet, and leaping with its two hinder feet longer than the former feet. *Kimchi* makes it a kinde of Locust which the Rabbins call *Rhaschon*; *Abenezra* thinks that to be called *Salaam* that sits amongst stones; and *Himski* subscribes to this opinion, the foresaid interpreters called *Chargol*, ἐπιμαχον, for it fights with the serpent, and stopping the chaps thereof, it kills the Serpent: *Aristotle Hist.* 9. cap. 6. saith, that many have seen τὴν ἀνείδαν, the Locust called ἀνείδαν, which when it fighteth with the Serpent takes him by the neck. *Niphus* needed not interpret that ἐπιμαχον to be the *Scolopendra*, or Viper, since the Philosopher calls it directly ἀνείδαν, and the 70. learned interpreters say it is a Locust: however it seems *Niphus* was so blinde that he thought it impossible for so small a creature to kill a Serpent, but we thought it safer to relie on the testimonies of so many learned men, (who had an insight into Locusts, and almost into all natural things) than upon the conjectures of so frivolous a Commentator and deviser of novelties. *Hagab* or *Chagab* is called *Attelabus*; *Hierome* calls it *Attacen*. Amongst the Locusts spoken of, this is reckoned to be the last, and is set in the last place, as likely to be the most grievous; for this not only tastes of corn or shears it, but breaks and grinds stalk and all. It is bred of egges in a land fruitful for corn, which the female left there when the corn was gone.

Kindes of
Bruchi.

Five other kinds of Locusts are numbred up, *Joel* 1. *Amos* 4. *Deut.* 28. and *Psal.* 78. namely *Gaza*, from shearing; *Jelak*, from licking; *Chazih*, from destroying; *Theletsah*, from the blasting and rust it brings to corn; and *Chenamal*, from staying; because where it sets up its station, it carrieth there, and forsakes it not. *Rodolphus Modius* on *Leviticus* and the Prophet *Joel* reckons divers kinds of *Bruchi*; some are golden colour, others yellow, others gray; also from a whitish wormin frothy dew that in *May* sticks to plants, a certain winged green creature is bred, in form like to the smallest kinde of Catterpillar, first it leaps, and afterwards it flies, and therefore I think fit to call it *Locustella*, a little Locust. The English call that frothy matter *Wood-sear*, as if you would say the putrefaction of the wood. The Germans call it *Cuckow-spittle*: but what form that was of which *Suidas* calls μολαίς; *Celins*, μολαίς; *Nicander*, μολαίς; *Hesychius*, βρέθνα, ἀχρεῖς, πελάλι, ἀρπυί, δολαχότροχ; *Aristophanes*, πάρου; *Eustathius*, μάσαξ; *Phavorinus*, ἀλγύ, and πωλίς; *Isidore*, *Ludolochra*; truly I cannot tell, and I would gladly see some *Oedipus* who would declare their nature and use. But because *Marcellus* affirms that there are some Locusts that use but two wings: and *Willichius* ascribes to some six wings; they should either have described them, or have held their peace in a matter that exceeds belief. Also he slipped very absurdly, when he assigned a King and a Monarchy to be amongst them. May be amongst many little ones he found one great one, and saluted him for their King, because he excelled in magnitude; but *Solomon*, (that was of Philosophers and wise men the chief) saith they have no King, but are subject to a Common-wealth as *Pismires* are.

The mischiefs
Locusts do:

How God by these very little creatures did punish the pride and haughtiness, and hard heartedness of *Pharaoh*, is apparent enough out of *Exodus*, and is spoken of every where. In the year 170. before the birth of Christ, all the meadows almost were covered with clouds of Locusts, and a hundred years after about *Capua* a great multitude of them filled the countrey. *Julius Obsequens*. In the year after Christ, 181. the war long enduring in *Illyricum*, *France*, *Italy*, and at last being ended, that nothing might be wanting to punish those Nations, an innumerable company of Locusts, and far greater than the ordinary ones, consumed all the grafs round about. In the year of our Lord, 591. when *Agilulphus* reigned in *Lombardy*, a very great plenty of Locusts afflicted the Countrey about *Trent*, which are reported to be brought out of *Africa* by force of the winds; but the greater part of them were cast down with storms and drowned: but they were no less hurtfull and deadly to the *Italians*; for by the waves they were brought to the shores of *Cyrenis*, and by their venomous stinking smell, they caused such a plague amongst mortals, that *Julius* writes, that of men and cattel there died above 800000. Also at *Venice*, and about *Brescia* for want of corn, (for the Locusts had consumed all) so lamentable a plague followed, that in the year 1478. when these things hapned, above 30000. men died of it. Again in the years 593, 693, and 811. Locusts came flying out of *Africa* after a great drought, that devoured plants, herbs, and barks of trees, whence followed a strange famine, and such as is elegantly described by the Author of *Naumachia*, in these verses:

The nurse childe of death,

Famine was present with her empty veins,
The poor with hunger starved, their breath
Was spent; for neither broth nor bread remains:
Upon their mouthes and guts hunger laid hold,
They move their chaps, and bite their teeth, not meat,
Through wrinkled skin their bowels might be told:
Nothing but skin and bones, they'd nought to eat,
In stead of belly stood an empty place,
The brest hung down, and seemed for to stay
On the back bones rough grate, pale was the face,
Lips white, eyes sunk, teeth stark, all was like clay.

Nor

Nor was *France* free from their teeth and devouring, but in the years since the time the *Virgin* brought forth her son, namely in the year 455, 874, 1337, 1353, 1374, was miserably warr'd, and the Citizens consumed by famine, and very many killed by a plague that followed it, and sometimes it lost a third part of the inhabitants. These Locusts had commonly six wings, and were brought thither from the East. But at length by force of winds they were carried into the British Sea and drowned there: but by the flowing of the sea they were cast to the shore, and infected the air, and caused a plague no less cruel than the famine that went before. *Otho Frisingensis*. Also in the year 1476, they wasted almost all *Polonia*. In 1536, innumerable troops of Locusts were brought by winds from the Sea *Euxinum* into that part of *Sarmatia* which is called *Podolia*, they did change their camps in a military order, and they eat up all that was in the fields where they pitched both by day and night; these of an unusual greatness at first wanted wings, then their wings growing forth, they flew at pleasure; and what shall I say? they eat not only herbs and leaves, and flowers, but hardly left any bark on the trees. Then they wandred through *Germany*, and came as far as *Millan*, and having devoured all there they returned to *Polonia* and *Silesia*. At last in *November*, for so long they lived, when they were consumed by force of cold, they raised such a stench, that had they not been eaten up by hogs, and wilde bores, they would have caused as great a plague, as they had done a famine in *Germany* and *Italy*. In the year 1543, Locusts did a very great mischief to the Countreys of *Misnia* and *Marchia*: at which time they were so frequent in *Lucania*, that being in heaps they were above a cubit high. *Jacobus Eckelius*. In the year 1553, it is commonly known what great damage the mighty company of Locusts did at *Ayles*: whilst we were writing this, we received news that the *Spaniards* were sorely afflicted with swarms of Locusts brought thither out of *Africa*. For they flew like Armies through the skies, and darkned the air. And the people when they saw them, rang all their bells, shot off ordinance, sounded with trumpets, rinkled with brazen vessels, cast up sand, did all they could to drive them away; but they could not obtain what they desired, wherefore sparing their labour in vain, they died every where of hunger and contagion: as the Mariners and steer-men reported to us, who escaped very hardly from that danger themselves. *Entropius lib. 4.* makes mention of very great Locusts, which were seen not far from *Rome*, to the wonder and amazement of the beholders, the inhabitants were so afraid of them, for their devouring nature, that they were frighted at their sight. Hence we may collect that those creatures are not the smallest amongst the Armies of the Lord of hosts, when he pleaseth to punish the sins of men, and to revenge himself on the despisers of his Lawes. But as his Justice is admirable, so in his greatest severity Mercy is not wanting; for being that Locusts have brought sundry Nations to want and hunger, and they have had no thing to eat, these Locusts have died suddenly, and became meat for the people they afflicted before: the people of hot Countreys, Their Use. (whom especially they spoil of their increase of fruits) as the *Aethiopians*, *Tagetenses*, *Parthians*, *Arabians*, *Lybians*, *Mellenses*, *Zemenses*, *Darienenses*, *Africans*, and those that live about *Lepris*, the *Azanaghi*, *Senegenses*, people of *Mauritania*, and others, live chiefly upon Locusts, and account their eggs to be dainties; others prepare them thus: First in a low large place they make a great smoak, by which the Locusts in flying are hindred and forced to fall; then when they have taken them they dry them with salt, the Sun and smoke, and cutting them in pieces, they keep them for their yearly provision, as we do fish, not only those which have large legs, but the *Attelabi*, the *Aselli*, *Asiraci*, and almost all kinds of Locusts, as we collect out of *Dioscorides*, *Strabo*, *Pliny*, *Solinus*, *Agatharhis*, *Plutarch*, *Avicenna*, *Posidonius*, *Leo* and *Dionysius Africanus*, *Alian*, *Diodorus Siculus*, *Aloysius*, *Cadmus*, *Agricola*, and the Centuries of Navigations, whence they were called *ἀνείδωτοι*, Locust-eaters. Yet though they accounted them amongst their choicest meats, yet the *Grecians* esteemed them but for meaner fare; if we beleve *Aristophanes* and *Plutarch* in *Sympos.* where he calls them the Sustainer of the Countreymans table: *S. Matthew* in the 3. chapter, saith that *John the Baptist* lived upon them and wilde honey; and God appointed four *Levit. 11.* sorts of them to be clean, and suffered the people of *Israel* to feed upon them: whosoever desireth more concerning Locusts for food, let them read the most learned Annotations of Venerable *Bede* upon *St. Matthew*. They have no venome in them; yet they that feed on them are not long lived, and seldome live to 40 years, and frequently die young, as *Diodorus Siculus*, *Agatharhis*, and *Strabo* have observed. *St. Ambrose* saith that Locusts hurt neither men nor fruits by themselves, but nourish them; and feed not on fruits unless God command them. But when God gives the word, they kill men, spoil the ground, and execute the vengeance of God. *Mantis*, as I said, shewes travellers their right way; *Ophiomachus* kills Serpents, all Locusts foreshew the Spring, and what is more acceptable to us? and if by so great multitudes they foretell of famine, by that they sweetly invite us to prayers and repentance; they live so lovingly together, that they stand in need of neither King nor Emperor; for they fly together as *Solomon* saith, *Prov. 30.* without a King and live in concord, whence is that saying of *Ecclesiastes*, *Thy keepers are as Locusts, and thy children as the young Locusts*: that is, not only numerous, but unanimous, and conspiring together.

What concerns their use in Physick, the Locusts are serving to that end also: for their smell Their use in cures the Strangury, especially of women. *Dioscorid.* Bread eat with the flesh of Locusts, is good Physick, for those who are troubled with the Stone: fried Locusts take away the roughness of the nails: Locust legs bruised with Goats tallow, cure the Leprosie. *Pliny.* *Mantes* cure hard scrofulous tumors.

mors. *Aselli* dried and drank with wine are excellent good against the stinging of the Scorpion. *Attelabi*, cure the stinging of Bees, Wasps, Hornets, and hurts by Blond-suckers. *Dioscorid.* *Eupor.* and *Pliny* 29. 4. *Arnoldus* prescribes this composition for the white skins of the eye for dimnests, and a cloud; *Breviarii lib.* 1. c. 16. Let the Locusts be not altogether greens, nor wholly black, thrust a string through them and strangle them in a little White-wine, then dry them in the shade, then take Primrose roots, and Fennel roots, dry and powder them, and mingle them with the powder of the Locusts, then keep the powders bound in a cloth, in the said White-wine in a brazen vessell; of which *apine* (the cloth being first gently crushed) drop two or three drops into the eyes: As for their quality and temperament; unsalted they heat a little, they inflate, increase seed, stir up venery, when they are salted it seems they are of worse juice, they cause thirst and burn the blood; yet they hurt not dropie persons, nor such as are leucophlegmatical. *Silvaticus.* Farther to touch upon other uses of them; Locusts, their feet and wings taken away, are good to feed young Peacocks. *Colamolla.* Frogs about lakes, and many fish feed on Locusts, which is so well known, that *Bellonius* witnesseth the same. Also the *Salencians* have a bird feeds on Locusts, as *Hesychius* remembers. Jackdaws do also devour them; wherefore at the publick charge they are maintained in *Thessalias*, *Illyrium*, and *Lemnos*; for they not only destroy Locusts coming, but they also devour their issue, whereby corn is preserved unhurt. Also they are food for Rooks, Choughs, Hens, Geese, Ducks, for Hogs also and sheep, as besides histories, and long experience, *Plutarch* witnesseth in his book of *Isis* and *Osiris*. Lastly, if any credit may be given to *Apomafaris*, a man most learned in the learning of the *Indians*, *Persians*, and *Egyptians*, to dream of the coming of Locusts is a sign of an Army coming against us, and so much as they shall seem to hurt or not hurt us, so shall the enemy.

How they may
be killed and
driven away.

Now it will be time to shew by what means the over great abundance of them may be driven away by the providence and wisdom of man, and so I shall conclude this Chapter. *Pliny* saith, that in the Countrey of *Cyrene*, it was ordered by a Law, that thrice in the year they should war against the Locusts. First, breaking their eggs, then destroying their young ones, then by killing the grown Locusts. If any failed of this duty they were punished for their default. The *Magnesi* and *Ephesians* march out in military order against them. It is no wonder that divers Nations took counsel how to destroy so cruel an Army, whereas in divers places of *Africa* and *Mauritania*, they are so numerous and mischievous, that they force the inhabitants to seek out new habitations. We observed out of *Pliny*, *Valeriolus* and *Pencernus*, divers waies to break and destroy their eggs. At the entring of the Spring, rivers are turned upon the places where their eggs are, so that they abundantly wet all the surface of the earth, or the greatest part of it. If the place be so situated that they cannot do this, multitudes of men trample over the ground, so that no place is left, that is either higher or deeper than the rest; if they cannot prevail with their feet, they use a drag, a harrow, and a rowle that are very heavy, such as Countrey men use, that they may the more easily bruise them, and level the ground the better. Also abundance of military Chariots would do no hurt here, for by frequent and often running up and down with the wheels, they would break the eggs: I should also commend the use of the plough, which would dig and turn up the earth, and cut the nests of the Locusts. Some counsel to fright the old Locusts with ringing Bells, sounding Trumpets, beating Drums, and by discharging great Guns, to make that terrible *Salmonian* noise, that may drive them away; some think that by great cries and shoutings of men, they may be terrified, as if the beating of the air might shake them, or as though they heard any of those terrible noises, as some absurdly dream. Others make deep ditches in the fields, and with crackers that beat the air, drive the fearful Locusts thither by degrees, and when they are come into these ditches, they are suddenly overwhelmed with earth, or casting in rubbish, they cover and destroy them. Some affirm that they are taken with pickle made with Locusts, that by it they fall suddenly into a deep sleep, and afterwards dye. By these acts, saith *Valeriolus*, the Locusts that vexed the people about *Arls* were destroyed in twenty daies time. In *Syria* they fight against them in a souldierly posture. In the Island *Lemnos*, all Souldiers are bound to bring a certain measure of Locusts to the Magistrates every day. Some Nations, as I said, feed Jackdaws at the publick cost, that as occasion is they may destroy the Locusts. Moreover the birds, namely Storks, are called *Seleucides*, which the inhabitants of the Mount *Cassian* formerly obtain'd to be sent by *Jupiter* against the Locusts that destroy'd their corn. These birds come yearly to help them, but whither they fly back, or whence they come, no man can tell. So soon as the Locusts are destroyed they forsake the Mountain, and go home again. Our new Authors mightily commend the smell of brimstone, and of gun-powder, and think they will kill Locusts by their smell; but if a cloud of Locusts or swarm come tumbling into a land, let all the inhabitants lie close in their houses, for if they see no man in their journey, they will readily pass over that countrey, or else they will easily remain in that place. But if they be come before it be observed, they will touch no herb nor corn, nor any thing that is sprinkled with the decoction of bitter Lupines, and wilde Cucumers, for they perish so soon as they touch them. It may be the decoction of the lesser Centory, Wormwood or Walnut leaves would do the same. Also they are said to passe from those places where bats are hanged aloft on the trees. Moreover, if you burn Locusts taken in pits, the same way as I said, that fume will either choak the rest that are near, or will make them fall down, that they may be easily taken with your hands, or they will dye of themselves, being afterwards weakened with the Sun. If you would defend vines from

from them, sow three grains of mustard-seed near the root, for they sprouting up afterwards, will by their sharp sent, kill all *Bruchii* and Locusts whatsoever that come near them; as the *Geoponicks* of *Cassius* and *Dionysius Uticensis* (not rightly ascribed to *Constantine* the Emperor) do persuade us. *Aristot.* 4. *hist.* 8. saith that Locusts are driven away with the fume of Brimstone, Harts-horn, or Storax. *Palladius* from the rules of *Democritus*, lib. 1. tit. 35. writes that Locusts will hurt neither corn nor trees, if many river or sea Crabs be put in an earthen vessel with water, and be covered and set in the Sun, that they may evaporate so for ten daies, then whatsoever you would have take no harm, sprinkle with that water every eight daies, till the corn be perfectly grown. *Arnoldus* saith that Locusts are driven away with the fume of Oxe or Cow-dung, or the smoke of the left horn: but why doth he superstitiously exclude the right horn? for reason and nature hold right to be better than left. The Magicians trust much to their trifling charms, whom *sith Pliny* hath lib. 37. cap. 9. charged with extreme madness, and vanity unspeakable, I shall say nothing to detain you with. *Peucerus*, lib. de *Divinat. gener.* writes, that the *Romans* when they knew not the true God, whensoever they saw swarms of Locusts, used fasting, sorrow, sacrifices, and all means to pacifie the angry gods, and afterwards they more carefully adored *Jupiter*, who drove them away. *Eudoxus* saith, that the oriental *Galatians*, upon such a tempest, come to the god of Birds, and desire him often to drive away the Locusts that swarm in their lands. This should admonish us Christians that are entred into the rites of the true God, and are instructed by the perfect light, that the sure way to drive from us hurtful Locusts is to call upon God by prayer joyned with true repentance and unfeigned piety, without which all our force and inventions will come to nought, nor will all our devices avail at all. For I highly approve of that saying, *For all remedies without Gods assistance are idle enterprises of men, but when God is pleased, and blesteth the means, then are they remedies indeed.*

CHAP. XVII.

Of Grasshoppers and Krickets.

OF all the Insects making a stridulous noise, the Grasshopper challengeth the chief place, and by great right too. For in the heat of the day he sends forth a most shrill and muscull sound, sustaining his life with dew without doing any harm to herb or trees. Amongst the Greeks he hath divers names, according to the diversity of Countreys, generally and by a common name he is called *τέλιξ*, by the *Eleans*, *βελανός*; by the *Sideri*, *ζέρας*; by the *Cretians*, (as *Bellonius* saith) *σάμφορον*; by the Countreymen of *Saidas*, *ἔρον*, because it lives by sucking out of the dew. They attribute also divers names and appellations unto it from its sex, age, bigness, and singing. For the female which doth not sing at all *Alian* calls *κικώτις*; *Stephanus*, *καλαμαία*, that sings not; *Eustathius* thinks it is not a Grasshopper, but another kinde of creature like it. So doth *Athenaus* f. 4. from *Speusippus*, ἡ κικώτις ζῷον θύσιον τέλιξ ἢ τρυγώνιον, like to a Grasshopper, or the Bird called a small Turtle. Indeed the words of *Lia* out of *Alexis* cited by *Athenaus* in his *Thraso*, give in a large testimony to the same, both that the *Cercopa* had a voice, and was of a divers kinde from the *Cicada* or Grasshopper (I never saw the female *Cercopa*, nor the Pye, nor the Nightingale, nor the Grasshoppers male) unless perhaps the Grecians were wont to keep together in their caves the male and female Turtle, so we should say they joyned together in like manner, the male Grasshopper and the female *Cercopa*; for that they did not only keep them together with the Pye and the Philomele, for their singing sake, but that they might behold their mutual embraces, dalliance and lustful pleasure. Add to this that *Athenaus* calleth it *λαλέτερον*, or the more talkative; so far is he from attributing all the business of singing and making a noise to her male, contrary to the custome of the female.

The Grasshopper when it comes to be old is called *τέλιξ*, when young and tender *κίκος* & *κίλλος*, as *Hesychius* observeth. The little Grasshoppers (which *Gaza* calleth *Cicadastras*, and we *Cicadulas*) the Greeks call *καλαμίδες* & *κικώτις*, which signification I wonder that it is passed over by *Stephanus*. The word *καλαμίδων*, put substantively, signifieth the least Grasshopper of all, as *Eustathius* witnesseth. *Τελιγόνια* also do signifie the lesser Grasshoppers, as we read in *Calius*, although *Eustathius* will have them to be creatures of another species, like to Grasshoppers, as elsewhere he calls them the females of Grasshoppers. These *Dionysius* will have so called of the Greek word *τέλιξ*, from the sound they make. The more vocal and obstreperous of them called *Enceladi*, are the *Achetai*, or the Males, making indeed a very pleasant and musical noise. The other being mute and more wilde are called *Sigalphi*, from their silence, as also *Acanthii*. In Arabick, *Gintole*, and *Cicuale*, *Vulderetriche* and *Robiche*. *Silvar.* *Cicara* is a barbarous word of a Latine or Spanish word corrupted. In Italian *Ligallo*, *Cicara*, and elsewhere *Lazenala*; In Spanish *Cignatregas*, and *Cigarre*; in Germany and England I do not hear that there are any Grasshoppers to be found, but if they be, they are in both Countreys called *Bow-krickets*, or *Baulm Krickets*; in Flanders, *Feildtreffen*; of the Walloons, (if I mistake not) *Straffen*; in Polonia, *Konick*, *Zymyco*, *Spiewa*. Sometimes the name Krickets and Grasshoppers, are promiscuously used, which cannot be, unless you will say that the Kricket is a Grasshopper without wings. The Latines as

some that hunt after words will have it derive the word *Cicada*, quasi cito cadens; (i. e.) quickly perishing. And that indeed is the Epithet that *Arist.* gives it, *ὀλιγογενὲς τήνδε*, the short lived Grasshopper, for so indeed it seems to be.

Of the Grasshoppers, some are more common, others more rare. The common and ordinary sort hath the head big, and bending downward; and is of the figure of a *Pentagon*, terminated with unequal sides; it is of a blackish green colour, having on each side two bunches or bosses of the same colour, but of an oval figure, and edged about with a dark coloured margine, and a line or streak of the same running along cuts the bosses in the midst, & the letter *ἰωτα* of a pure black colour



parts the head right in the middle; it hath eyes of somewhat a dark green, prominent and big, considering the bulk of the body; insomuch that I wonder that *Nigidius* (that denies that they have any eyes) could not see them. But indeed as *Aristotle* saith they are very dull sighted. For if you bend your finger and put it back toward their eyes, they will rather come towards you than go from you, and will the sooner get upon your hand being drawn thereto by the shadow of the finger: the head or rather the face looking upward, appears of a weak green from white.

The Grasshopper amongst the Insects, is the only one of those kinde of creatures that is without a mouth, but hath it otherwise supplied, by a long kinde of compact fast substance, which like a promucis supplieth the place of a mouth and tongue fashioned round and hollow like a pipe or gutter, reserved for the most part within, having ten streaks running athwart it, with the which it sucks the dew, the only nutriment that it hath, and which is peculiar unto it, as *Virgil* saith, *Pascuntur dum rore Cicada*: Whence it is in *Athenaus* that the question is controverted, afterward concluded, that water alone is able to maintain life, because with it alone the Grasshoppers are sustained. Hence it is that elsewhere he repeats the saying of a certain Parasite to this purpose

ὅτι οὐδὲ τῆς ἑσθῆς κοχλία, i. e. I am not such a one as liveth on dew nor herbs. And that of *Theocritus* is very like it: *Doth he live on dew like a Grasshopper?* Away then with that Fable of *Aesop* which is commonly received, that the Grasshoppers begged food from the Ants, for we may learn out of *Plato*, that the Grasshoppers are consecrated to *Apollo*, and the Mules bestowed on them this boon, that they should live only by singing, not so much as mentioning the dew. We shall also pass over those inventions of *Tzetzes* as not worth the mentioning, who reports that the Grasshoppers are alwaies provided with food in great variety. It is reported by *Antonius Altomarinus* in his Book *de Manna*, that the Grasshoppers do suck the juice out of the bark and leaves of the Ash-tree, or Elm chiefly, the which we call Manna, but yet it is more likely that they suck it off from herbs, or out of them, as the Butterflies do, both because they are alwaies found to be empty within, and for that they are not perceived to void any thing, unless it be when they have taken in a little more dew than ordinary, they cast out of their bodies the superfluity thereof, as the Countrey men have observed.

The body is fastned to the head by a very short neck, or rather none at all indeed, the shoulders are spotted with green and black, the breast is of a bright green well towards white, out of which come three feet and shanks on each side of a leek colour; the belly in the bigger sort is two fingers in length, and one in breadth; the inner part of the belly resembles a target ending in a sharp point, and is compassed about with an hem having twelve or thirteen joynts in it; within appear certain incifures of the same colour with the belly; the males (that is, the least of the two) have the end of their tail forked; the females on the other side whole; their back is blackish with seven or eight green lines or incifures drawn athwart the same; the wings very curious, of a silver colour, and painted with dusky spots and specks very trim, the outermost twice as long as the innermost, and more various: the dark brown is more rarely seen, which *Ludovicus Armacus* a very diligent Chirurgion, brought from *Guinea*, and gave to *Pennius*: also *Mr. White* a rare Painter, gave him another brought forth from *Virginie*, it was all of an ash-colour, (it may be it was that the Greeks call *τέφρω*) but it was like the former in proportion, it hath both its wings silver coloured, but not at all, spotted, and the former green ones were. Those that live in quicksets are most green and big, those that are found in oats, or corn, or grass, are of divers colours according to the place where they be, and are far lesse then the rest.

But if we compare their Nature and conditions with mans, they being our servants, do excell their Lords and Masters in virtue; and may teach us manners. For they shew forth that harmlesness of conversation, that they will not hurt or abuse any creature; but we perverting the right



right use of things, can finde in our hearts many times to abuse even our parents themselves. What guest will be content with the diet of the Grasshopper; that is simple, mean and frugal, not iniquated with variety of dishes, or cookery, or curious mixtures? yea so far hath foolish curiosity prevailed with men, that unless flesh of contrary nature, and with them fruits, leaves, spices, liquors, be dressed together, they think their appetite unsatisfied, & their palate very much wronged, nauseating that clean and wholesome diet of their forefathers. Those can quench their thirst with a little dew: we with our diversity of mixtures do rather invite and increase thirst than allay it. They living in shrubs near to the earth (in which they had rather sing) yet notwithstanding lead a cheerful life, and with their high strained notes, do make the lowness of their condition more easie to them. But we men if cast from any high place, we presently despair, and are afraid at every turn of the wheel of Fortune.



The Grasshoppers hold on singing from morning to night, without intermission, very pleasant and sweetly; whereas many Preachers neither preach well nor often, scarce four times throughout the year: truly they may be ashamed being bred more civilly, to be admonished of their duty by a wilde musician. These if you scratch or tickle their belly (as Poets which were commended) sing more shrill; but those speak them as fair as possible may be, yea invite them with gifts, yet (like the *Argonauta* of *Martial*) neither use the care, nor lift up their eyes or hands to the sayles. Moreover these agree all together in one tune, and bestow their mutual help in their affairs. But I would to God these did not wholly busie themselves in sowing strife, and breeding controversies, that they did not wrangle together about wool and flax, figures and forms, and ceremonies, and of things decent, undecently and unseemly. True is the proverb of *Theocritus* concerning them, *τίσις τίσις φίλος*, the Grasshoppers are a friend each to other; but man who ought to be a God to man, rather proves a wolf and a Devil, and putting off the nature of a man, tears up his own bowels.

Amongst the Grasshoppers the females are silent; the males do in a manner loath venery, neither are drawn unto it but by many enticements of the female. But our women have more tongue by far than men; and the men behave themselves more lasciviously than women. What is to be

added further. The Grasshoppers of all other Insects seem to be without passion, but the perturbations of our mindes do carry us on so headlong, that upon every slight cause, yea none at all, we wax hot with anger, pine away with grief, burn with envy and jealousy.

Now for the musick which the Grasshoppers make, amongst all the Insects there is none like it, accounted so sweet amongst the Ancients, that they equalled it to the sound of the Harp, as *Pollux* writeth, and it may be *Lucretius* therefore called Grasshoppers *Teretes*. When *Timon Sillographus* would commend the eloquence of *Plato*, he compared it to the musick of the Grasshoppers: his words are these: *Plato sings sweetly, and as well as the Grasshoppers*. They begin to sing in the heat of the day, even at what time the reapers would otherwise leave work, wherefore those laborious chanters get them up into trees, and there fill the ears of the labourers and passengers with their melodious noise. For as musick is a kinde refreshment and recreation to the fainting spirits and tired brain, so the unaffected notes and layes of the Grasshoppers; and the earnestness of their contention in singing, doth serve as a spur to provoke men to endure labour,

as the Cock is: whence it is that the *Locrian* Grasshoppers will not sing at *Rhegium*, nor theirs on the contrary near *Locris*; and yet there is but a small river runs between them, such a one as one may cast a stone over. Much certainly doth their Countrey (which comprehends in it all the love that may be) move them: where like the people of the Jewes, they refuse to sing their native Songs in a strange Countrey; who being cast out of their own habitation, seek means to die rather than waies to live; so prodigal seem they of their short life, and delirous after their native dwelling.

They do so affect the company of men, that unless they see fields full of Mowers or harvest folk, and the waies with passengers, they sing very low and seldome, or silently and to themselves. But if once they hear the reapers making merry, talking and singing, (which is commonly at noon) then they sing so loud as if they strove who should sing louder, together with them. Wherefore not undeservedly was the Paratite in *Athenaus* called *πῆσις*, who being naturally obstemious by nature, yet was so full of talk, as if he strove that no body should be heard at the table but he. *Socrates* in his *Phaedro* recites the History of the Grasshoppers very wittily, warning men not to sleep in the heat of the day, lest the Grasshoppers mock them: for the Poets report how their diligence was highly rewarded. For they say that the Grasshoppers before the Muses were, were men; who afterwards when the Muses came taught them to sing; but some of them were so delighted with musick and singing, that altogether neglecting their meat and drink inconsiderately, they perished; the which afterwards being turned into Grasshoppers, the Muses gave them that for a reward, that they should be able to live even in the heat of the day without meat or drink, neither to have any need of blood or moisture.

They couple and generate with creatures of the same kinde, as *Aristotle* tells us, and the male casts his seed into the female, which she accordingly receives; they bring forth in fallow grounds, hollowing it with that sharp picked hollow part of their tail, as the *Bruchus* doth, and therefore there is great plenty of Grasshoppers in the Countrey of *Cyrene*. Also in reeds, wherewith the vines are propped, they make hollow a place for their nest; and sometimes they breed in the stalk of the herb *Squilla*, but this brood soon falls to the ground.

This is also worth the notice, which *Hugo Solerius* writing upon *Aetius* affirmeth, that the Grasshoppers dye with bringing forth, the ventricle of the female being rent asunder in the birth (the which some being very much deceived therein, do report of the Viper) the which I exceedingly marvel at. For they lay white eggs, and do not bring forth a living creature (as the field mouse doth) unless it be by reason of weakness: of the egge comes a little worm, of that comes a creature like to the *Anrelia* of the Butterfly, which is called *Tettigometra*, (at what time they are very delicate meat to be eaten before the shell be broken) afterwards about the Solstices, in the night come forth of that matrix, the Grasshoppers, all black, hard, and somewhat big. When they are thus got out, those that are for the quicklets, betake themselves thither; those that live amongst the corn, go and sit upon that, at their departue they leave behinde them a little kinde of moisture; not long after they are able to take wing, and they begin to sing. That therefore which *Solerius* feigneth concerning the bursting of the womb of the mother, I should conceive to be understood of the matrixes.

A certain woman did bring up some young Grasshoppers, for her delight sake and to hear them sing; which became with young without the help of the male, if we may believe *Arist. 1. l. de hist. anim.* but since he hath told us that all the females of Grasshoppers are mute by nature, and this spontaneous impregnation is far from truth, either the woman deceived *Aristotle*, or he us.

There is another kinde of Generation of Grasshoppers, that we read of. For if clay be not dug up in due time, it will breed Grasshoppers, so saith *Paracelsus*, and before him *Hesychius*. For this cause *Plato* saith Grasshoppers were of old time men born of the earth, but by the favour of the Muses turned into that Musical sort of creatures, the Grasshoppers. Even at this day sustaining their lives with no other food than dew, and feeding themselves by continual singing they live. For this cause the *Athenians* were called *Tettigophori*, because they wore golden Grasshoppers for ornament in their hair, and for a token of their nobility and antiquity; as *Thucydides 1. Syngraph.* and *Heraclides Ponticus de prisca Atheniensibus testific.* *Erytheus* makes a proof of this custome, being born of the earth as they say, who first governed the Common-wealth of the *Athenians*, and they too in the judgement of *Plato*, the Natives were *αὐτόχθονες*, i. e. born of the earth. Afterwards it came to be a custome that none but an *Athenian*, or one born in the place might wear a Grasshopper in his hair: of this opinion is *Aristoph.* as also his *Scholias.*

Isidore saith that the Cuckow-spittle doth generate Grasshoppers, which is not true, but that it produceth small Locusts is manifest. *Lucretius* in his 4. Book, saith that the Grasshopper in the Summer doth shift his skin, according to this verse:

Cum veteres ponunt tunicas astate Cicada;

And for that reason he is called by *Hesychius*, *γυμνός*; *πῆσις*, i. e. the naked Grasshoppers or without a skin: whom I should not have believed unless I had the picture of the skin so cast off by me.

Before Copulation the Males are of the more delicate taste, afterwards the females, for that they

they have in them white eggs very pleasant to the palat. The *Parthians*, as *Pliny* writeth, and the rest of the eastern Nations feed upon them; not only for nutrition sake, but to open their veins, and to stir up their languishing appetite, as *Athenens* in his 4. Book, and *Natalis Comes* expressly affirm. Hence *Aristophanes* in his *Anagyrus* out of *Theocritus*, writes that the gods did feed upon Grasshoppers, at what time they had lost their appetite through choler or passion. I have seen, saith *Alian* l. 12. c. 6. those that sold them tyed in bundles together for men to eat, to wit, the most voracious of all living creatures did sell the most jejune, lest any thing should be lacking to their exquisite dainties.

Their use in
Physick.

Dioscorides gave roasted Grasshoppers to eat, and saith they are very good against the diseases of the bladder. Some, saith *Galen*, use dried Grasshoppers for the Colick; they give according to the number 3, 5, or 7 grains of Pepper, as well when it goes off as when it comes on. *Trallianus* bids to give them for the Stone, dried and beaten, the wings and feet first of all taken away, and this to be done in a bath with sweet Wine and Hippocras. *Egineta* useth them dried for the Stone in the reins, and for the diseases of the reins he invented the composition called *Diatettigon*. Such another like Antidote doth *Myrepsus* prescribe, but all heads and feet as superfluous members being cast away. *Luminaris* hath transcribed an Electuary out of *Nicolaus* of this sort. Take Grasshoppers, their heads and legs cast away, two ounces, Grommel seed, Saxifrage seed, each 1 ounce: Pepper, Galanga, Cinnamon, of each 2 drams, Lignum Aloes, half a dram; honey what is sufficient. *Nicolaus* useth Grasshoppers burned and powdered, mingled with honey, and gives them about the bigness of a bean in a quantity of wine. *Actius* gives three Grasshoppers beat in Wine. Some instead of Cantharides use Grasshoppers to provoke urine, and in my judgement not without very good reason; for they are taken with lesse danger, and do work sooner, as well in this disease, as in the weakness of venery. *Nonus* the Physician prescribes an Antidote of Grasshoppers, and *Xenophyllum*, against the Stone in the kidneys. *Aretaus* for the remedies of the bladder, speaks thus of Grasshoppers; *The best remedy for the bladder, is a Grasshopper given in its time to eat* (Males before copulation, but afterwards Females, as we finde in *Aristotle*) *but out of their time, dried and powdered; boyl them with water and a little spike: also let the patient sit in the same for a bath to ease the pains of the bladder.* Some of our later practitioners, put Grasshoppers in oyl, and set them in the Sun, and mingle them with oyl of Scorpions, and anoint the privities of men and women, the testicles and parts about with it for pains of the bladder. *Arnoldus*, *Breviar.* l. 1. c. 20. & 32. commends the powder of Grasshoppers for the Colick, and Iliack passion, and also to drive forth the Stone; if half a Grasshopper in powder be drank with Goats bloud, or Diuretick wine. *Laufamus* highly esteems the ashes of Grasshoppers to break the Stone, taken with Radish water, or the decoction of chich Pease. Also they cause idle and lazy boyes to hunt after them: *Theocritus* speaks thus of it in his first *Idyllium*.

Hee with thin ears of corn bound to a cane did make
A whip, for Grasshoppers to hunt and take.

Neither are they only excellent meat, and very usefull in Physick to men, but they feed Birds also, and insnare them. For the youth of *Crete* (as *Bellonius* witnesseth) hide a hook in the body of a Grasshopper, and when they have fastned it to a line, they cast it up into the air; which the Merops seeing, catch it and swalloweth; which when the boyes perceive they draw it to them; and so do exercise their air-fowling not without profit and pleasure.

The Grasshoppers abounding in the end of the Spring, do foretel a sickly year to come, not that they are the cause of putrefaction in themselves, but only shew plenty of putrid matter to be, when there is such store of them appear. Oftentimes their coming and singing doth portend the happy state of things: so *Theocritus*, *ἡ τήν γε ἀδὲ λαλῶντι*. *Niphus* saith that what year but few of them are to be seen, they presage dearth of victuals, and scarcity of all things else. But whereas *Jo. Langius* (a Philosopher of great reading and learning, and a famous Physician) saith *lib. 2. epist.* that Grasshoppers did eat the corn in *Germany* as the Locusts do; *Stamius*, that it was done in *Helvetia*: *Lycosthenes lib. prodig.* and the Greek Epigram doth affirm, that they eat the fruits and crop the herbs, truly (unless they mean a Locust in stead of a Grasshopper) they declare a strange thing, and (saying the credit of so famous men) I will not believe, for they have neither teeth nor excrement as hath been said, but only feed and swell with the dew. Besides, although I have gone over all *Helvetia*, *Germany* and *England*, and have searcht for a Grasshopper as for a needle, yet could I finde none. And therefore I suppose that both they themselves, as also *Guill. de Conchy*, and *Albert. Vincentius*, to have mistaken the Locust or *Bruchus* for the Grasshopper, being deceived by the common error, who take the one for the other. They that desire more of their nature and use, may consult the Authors of the Greek and Latine Epigrams, with praising them or dispraising them according to their own humour.

The *Egyptians* by a Grasshopper painted, understood a Priest and an holy man; the later makers of Hieroglyphicks, sometimes will have them to signifie Musicians, sometimes prattlers or talkative companions, but very fondly. How ever the matter be, the Grasshopper hath sung very well of her self in my judgement in this following Distich:

Sim

*Sim licet insecti genus exiguum atq; minutum,
Magna tamen parvis gratia rebus inest.*

Although I am an Insect very small,
Yet with great vertue am endow'd withall.

Next in order followeth the *Gryllus* or *Kricket*, both for that it resembleth it somewhat in shape, the wings excepted, but comes very near it in its note and manner of singing. *Calepine* saith it is called in Greek *γρύλλος*, but citeth not his author, neither can he. Others from the shrill sound think it to be so called, like the noise of the dashing of waves, which is called *Gryllismus*, in the number of whom is *Isidore*. *Hadrianus Junius* calleth it from the harshness of the sound *αχρη*, but not rightly; whereas I have proved out of *Arist.* that to be a greater sort of Locusts. *Freigius quest. lib.* from *Pliny*, calleth it *Tryxalis*; the which notwithstanding it be an Insect without wings as the other is, yet it is not at all like to the *Gryllus* in form or shape. It is called also in Latine *Gryllus*; in French, *un Gryllon*, *Crynon*; in Arabick, *Sarsir*, if we may believe *Bellunensis*; in Barbary, *Gerad*; of *Avicen*, *Algiedgied*; of the Polonians, *Swierc*; Hungarians, *Ofzifereg*; in Germany, *ein Gril*, *ein Heyme*; about Argentinum (from the moneth wherein it sings) *Brach vogle*; of the Illyrians, *Swietz*, *Czwiczick*; of the Italian and Spaniard, *Gryllo*; of the English, a *Kricket*; of the Dutch *Greken*, *Nachtecreket*.

The name of the Kricket,

The *Gryllus* or *Kricket* is of two sorts, the field *Kricket*, and the house *Kricket*. *Pliny* refers them both to the kindes of black Beetles, but improperly, since they have not their wings in a cover, but only thin membranes, though the outmost are far thicker than those that lie hid under them. *Calepine*, that came after him, makes it a kinde of Locust, but his error is the same. *Niphus* on *Aristotle*, *hist. 3. 28. & 29.* calls them ground Locusts and Bruches, as also

Albertus by ignorance calls them Grasshoppers. Of the field *Krickets*, some are males, some are females: the male is welnigh as big as the Grasshopper, but the body somewhat longer, of a blackish colour, the head for the bulk of the body, big; the eyes great, standing out, the fore-head horned, but the horns without joynts, which notwithstanding are moved to and fro with ease. It hath six feet coloured like the body, the hindmost longer than the rest, for the more nimbleness of motion and leaping; they go (as all the rest of the *Krickets* do) forward and backward; the wings as it were slightly engraven, and crooked, covering almost all the body, the tail forked, the body less than that of the female; she having a bigger belly, is of an unlightly green colour; the eyes grass-colour, the cornicles reddish, the tail three forked like a Trident, in bulk of body differing from the male. In the Summer they are found in the fields, making holes in the earth, and building their nests. In a calm Winter they lie hid, in a cold and sharp they die in their holes, the which they seem to have digged without the help of a Pioneer.



The noise which they make is caused by the rubbing of their wings one against the other, as *Pliny* witnesseth. *Jacob Garret* an industrious and ingenious Apothecary did the same with the wings pluckt off and rubbed together, very cunningly imitating them: insomuch that I wonder at *Scaliger*, who saith it cometh from a kinde of I know not what follicle and pipe placed in the hollow part of the belly; and at *Sabinus* who ascribeth it to the collision or grating together of their teeth: the which *Pliny* also, but falsely, writeth of the Locusts. When as either of them through the narrowness of the passages of their holes do lightly rub their wings, whether field *Kricket* or domestick, they make but a small sound: but when they are out of doors and rub hard, they make a very shrill loud noise, yet not at all without the motion and agitation of their wings: the which if you crop or pull off, you shall see all that noise presently to cease. In the heat of the day (in which they are much delighted) and in the night also they sing before their holes mouth.

Their common abode is in pastures and meadows; they do not willingly tarry in shady and opacous places, they seldome live till winter as *George Agricola* writeth.

Nigidius gives great credit to them, but the Magicians more; because they go backward and make a noise in the night, and make holes in the earth. The farther off they are, they make the shriller noise; whereas being near at hand they are silent, and through fear or suspicion presently betake themselves to their holes. The *Kricket*, (saith *Albertus* *l. 4. c. 7. exercit. 273.*) if it be divided in the middle, or have the head taken off, yet sings and lives a great while after. The which if it be true, what shall become of that pipe in the belly of them which *Scaliger* saith doth cause the sound? The children use to hunt them with a Pismire tyed about the middle with

with a hair, which they put into their hole, blowing away first of all the dust lest she should hide her self again, and so is drawn out by the Pismire. *Plin. l. 29. c. ult.* But sooner and with less labour is she taken thus, take a long small twig or a straw, and put it into the hole, and draw it out by little and little, out she comes presently to her holes mouth, as it were to ask what the matter is, or who offered that injury to her hole; and so is taken. From whence cometh the Proverb, *Stultior Gryllo, more silly than the Cricket*; of him that for every light cause doth betray himself to his enemy, and wittingly brings himself into danger. They live upon new Panick, ripe Wheat and Apples.

The house Cricket (if we may believe *Albertus*) is called of the Greeks *uaxxaxs*, but no such name can be found. It may be he took a barbarous word for a Greek: the English call them *house* *Kricket*s, the Germans, *Heimgrill*.

Pliny l. 11. c. 28. writing of the Scarabee (among which he falsely reckons the Cricket) hath these words: Some of them dig holes in the ground, others of them in the dry earth between the fire and the oven, making a great noise in the night. The Domestick like the former are both male and female. The male is almost all over of a dunish colour, the back of a various dun, or rather black; the body long and much less than the field Cricket; the head almost round, the eyes black, the cornicles movable every way, in form and shape all alike the field Cricket; about the root of the middle feet two snow white lines do cross the back and adorn it.



In the moneths of *July* and *August* they fly, but not far nor long; and that like the Wood-pecker, or Hickway, with a waving flight, sometimes flying aloft with her wings spread abroad, sometimes descending with her wings close to her body: the tail is forked. The female is the bigger and longer bellied, she flyeth with four wings, of which the outermost are shorter, the innermost narrower and longer; the end of the tail hath three prickles or bristles. Both the sexes fly, and leap and run, and that swiftly, they lick in greedily the scum of broth, and barm of ale or beer; they feed likewise on the matter and liquor that cometh out of corrupted flesh or carrion. Of this Insect writeth *Albertus* thus: The *Gryllus* or Cricket which sings in the night, seems to have no mouth as the field *Kricket*s have, but there is found in his

head a long thing like a tongue, and it growes above the outer part of the head, and that part is not cloven, as the mouthes of other creatures; neither is there found in the belly any superfluity at all, although it feed on the moisture of flesh and fat of broth, to which either powred out or reserved it runs in the night; yea although it feed on bread, yet is the belly alwaies lank and void of superfluity.

The Use.

The Cricket doth not only recreate men weary with labour, with their singing, but are good for physick also to drive away diseases. The Ancients (as *Scaliger* hath observed *Exercit. 186.* and found it by his own experience to be true) did use them in stead of the *Cantharides*, and with the like success. It being dug out of the earth with the earth with it, is good for the running of the ears. Being rubbed between the hands it cureth the disease called *St. Antonies fire*, as also the swelling of the jawes: but this Cricket must be digged out together with its earth with iron, and afterwards be rubbed; and so the patient will not only be cured for the present, but shall be free for a year from having the disease again, *Plin. l. 30. 4. 9. 12.* They cure also the *Parotides*, i.e. an Impostume or sore coming of matter distilled from the head into the kernels of the ears; whether they be bound upon the place, or the place anointed therewith; they serve also, together with their earth, to anoint the Kings-Evill. Their ashes mixt with oyl, bring old ulcers to Cicatrice. The Cricket diluted in water is good against the Stone or difficulty of urine. *Bellunen-sis* used to drop the oyl of them into the ears of them that are diseased in that part; by that means taking away all the dolour and pulsation of them. *Marcellus* much commends the stroking of them upon the tumours of the jawes, and binding them upon the same: and in the opinion of *Haly* being hung about the neck, they cure the *Quartan Ague*. *Serenus* saith they cure the swelling of the Tonsils in this Distich:

*A Cricket with right hand on Tonsils prest,
To kill the Cricket, gives the patient rest.*

Children (as the *Italians* do *Grashoppers*) do keep them in a box bored full of holes, or bags, to hear them sing in the night, giving them leaves of herbs whereon to feed, and so keep them all the Summer. They are kept in *Africk* in iron cages, and are sold at a great rate, as I have heard by some Merchants, to cause sleep. For those of the inhabitants of *Fesse* are exceedingly delighted with their shrill noise; as much as the *Irish* and *Welch* with the sound of the Harp. With which also learned *Scaliger* seems to be not a little affected, when for their musick sake he kept them inclosed in a box, the which if he had kept in such a thing where they might have had air, he had not found dead after three daies, but able to live a long while: *lib. de plant.* For being secluded from the air they cannot live, which besides air and sound have nothing in them, nor seem

to be any thing else. The last Summer I had a male and a female of them; but within eight daies, I found the sides of the female eaten out by the male, which also it self two daies after expired.

The Bird *Lanio*, as the learned *Brewer* hath observed, is fed with them. The which she fastens upon thorns near to her nest of young, for fear they should want food.

When they become offensive by reason of their number, thus they may be driven away or taken off. Take a good deep dish filled of water, and place it before their holes mouth with a good deal of oatmeal round about it; so the *Krickets* leaping up into the bowl are drowned: or if you mix water with *Vitriol* and inject it into their hole, they will be gone.

There is one little winged creature behind, which whether it may be referred to the Classis of *Grashoppers* or *Locusts* I know not. For by that it flies in swarms, and eats the corn, it may seem to be a *Locust*; but in figure and shape it is likest the *Grashopper* above any thing. The visage of this creature is wonderful resembling an *Infants*; it hath on the head a three cornered cap, in the top of which are four black foots; two often very long, the other two almost round, between which you may perceive two very little points or pricks; it hath four wings, of which the innermost are folded double when it sits still that you would think it to have six wings. And these it may be were those *Locusts* of which *Cuspiannus* hath written out of *Sigebertus*. In the moneth of *August* (saith he) in the year 874. a wonderful swarm of *Locusts* having six wings, and six feet, did fly out of the East, by which almost all *France* was destroyed. You would say at first sight they had a hood upon their shoulders; but if you look nearer hand, it is nothing but the upper part of the wings inclosed with a semicircle. The body very thick, of a black and dun colour, the hinder part of the wings were all full of black spots. *P. Quickelbergius* of the City of *Antwerp*, sent over this to *Pennius* out of *Africk*, the which I keep to this day in my storehouse of *Insects*, by the name of a young *Grashopper*. And as little am I satisfied concerning the *Tryxalis* (spoken of before) it had its name it may be from gnawing or eating. But that it should be either the *Bruchus*, or the little *Herb-locust*, *Grashopper*, or *Kricket*, I cannot be induced to believe. Not only because *Athenaus*, *Pliny*, and other *Philosophers* are not agreed in that very point; but besides, because they do much differ in form and nature; and why I pray may not *Tryxalis* be derived from *τρυζα*, to make a noise? and if it be, truly it will best agree with the *Krickets*, which because of the noise it makes, it may be as true of the *Cricket*, which *Peucer* very well distinguisheth from the *Blatta* or *Beetle*, as by other things, so by the noise it makes: that which *Joach. Camerarius*, son of that great *Camerarius*

us and heir of his vertues, first observed, *Pliny* adviseth to roast 20 of them and to drink them with sweet wine against shortness of breath, and spitting of blood. The ashes of them in honey, applyed to the rugged edges of ulcers takes them down; they are likewise exceeding good for the stopping of womens courses or monethly purgations.

Hitherto I thought good also to refer the water *Grashopper* of *Rondeletius*, whose head is like a pentangle, having as it were five corners, the eyes round and standing out of the head, not great, but black; the cornicles very short, coming forth out of the outermost part of the mouth; on each side it hath three feet, the hindermost longer than the rest; on the back it hath little wings, or some coming; the tail forked, the belly oftentimes as it were cleft; the colour of the body somewhat dun, or rather black and white. I found them in muddy and standing waters, but the nature of it I yet know not. This differs from the land *Grashopper*, both for that the head stands out more, and it seems to have some kinde of neck, and also it hath wings not fit for flight, but only to lift it self up. This is said to make a kinde of a pleasant noise like the land *Grashopper*, upon the

leaves of the water Lilly, pond-weed, and other water herbs. The which I have not as yet heard.



CHAP. XVIII.

Of Moths called *Blatta*.

Most men talk much of the *Blatta*, but few or none able to describe what the *Blatta*, properly so called, are, neither do they give the least mark whereby they may be known; but gathering divers notions here and there do put them all together and confound them. And but that *Pliny* had brought some light to this History, the *Blatta* had altogether been omitted or lost. First of all therefore we shall shew to what *Insects* the name of *Blatta* was given according to Authors, then we shall set down what the true *Blatta* and properly so called is. Now under the name of *Blatta* are comprehended both the worms growing in the ears, as also those *Phalene* which

which trouble the Hives of Bees. But since these desire the light, the other altogether shun it, why they should be accounted Phalens, I do not see. The Blatta also is a little worm eating cloathes or books. So Horace in his Sermons, *Blattarum & tinearum epula &c.* But Martial altogether distinguisheth between the *Blatta* and the *Tinea*, and sheweth them to be creatures of several kinds.

It is taken also of the Moderns for the little worm called *σῆψ*, out of whose web silken garments are made. Some call the little worm that groweth in the grain in the low oake, *Blatta*, from whence cometh the Blattean colour, or grain colour. So Turneb. *advers. l. 18. c. 17. & l. 28. c. 23.* The Blattean colour is died with worms which come out of the grain of Cockle, out of whose blood is produced a most curious colour, not black, as some think, but a bright purple or scarlet. To which the Book *de natura rerum*, & Gualter de Conchis do assent. The worms of the belly some call *Blattæ*. Cardanus in one place calleth the worms that breed in meal or bran, *Blattæ*. Gaza interprets the word *σῆψ*, as also *σφαλισκιδας*, *Blatta*. But the proper and right name thereof is *σῆψ*; according to Pollux, *πῆψ*; as also according to Lucian, deriding a man that was no Scholar, yet bought many books. The Italians call it *Blatta*, and *Tarma*; the Hertrurians *Piattela*; the Germans, *Wibell*, *Brottworme*, *Brottkarfaer*, *Malkaefær*, *Springwibell*; they of Norimberg call one species of them by way of sport, *Schavahen*, because it cannot endure cold, as Cordus writeth; the Illyrians, *Swinie*; the Polonians, *Molulomy*; the Hungarians, *Moly*; the Spaniards, *Ropa cova potilla*. Now the *Blatta* is an Insect flying in the night, like to a Beetle, but wanteth the sheath wings.

The Name.

There are three sorts of *Blattæ*; the soft Moth, the mill Moth, and the unfavoury or stinking Moth. *Freigius* divides them altogether falsely, confounding the soft and the stinking Moths one with the other, and making the *σφαλισκιδας* to be the third species of them, seduced as it seemeth by Gaza's interpretation. That all of them when they are old do shift their skin; both *Arist. hist. 8. c. 17.* and *Pliny l. 11. c. 27.* do affirm. All the males are supposed to have wings, but the females certainly have none; they also are less, those more bulky and big-bellied. All of them (but the stinking) run very swiftly, and die with cold. The male is soft, the female of colour more black, it hath a small head, whereout come two long cornicles, every waies movable; the breast, together with the shoulders orbicular; in the body it hath seven incisures; the wings are of the same colour with the body, it seldom flies, but (as the Ostrich doth) by help of the wings it doth run very swiftly; it hath a forked tail like a pair of Barbers cizzers; it hath six feet. It lives about Privies or Jakes houses, ditches and steamy foggy places, for the most part they are somewhat like the field Cricket, but of a more compact body, and with far more slender thanks.



In the Ship called the *Philip*, (which that noble other Neptune, Sir Francis Drake, took laden with spices) there was found a wonderful company of winged Moths, but somewhat bigger than ours, softer and of a more swarthy colour. I have heard by many men of good credit, that there was one of these soft Moths found and taken in the top of the roof of the Church at *Peterborough*, six times greater than the common Moth, which did not only pierce the skin of those that sought to catch it, but bit so deep, that it did fetch blood in great quantity; it was about a great thumbs breadth in bigness and length, and being shut in between two wals, yet after two or three daies got forth no man knew how.



The Mill or Bake-house Moth, I have seen: the Greeks call the female (if I am not deceived, because it had no wings) *μυλοκίς*, *μυλική*, *μυλαεῖς* & *ἀφροκοπίαν*: it is longer, thicker, and of a more shining black colour than the ordinary soft Moth, with a little forked mouth placed as it were under its belly; the cornicles like to the first, little hollow eyes, or rather eye-holes; the breast four-square, with the four foremost feet fastened to it, the hindmost to the belly; above the shoulders appear as it were little wings, though they are not so indeed; the rest of the body somewhat thick, cut all over round about, circle or orbicular wise; in the sides resembling the form of a saw, the tip of the tail and a fork growing on each side is somewhat like a Trident: these Moth Crickets take up their abode in warm places, as stoves and bake-houses, and such like; let them be never so hungry, they will scarce indure to come into the light; or if they be compelled so to do whereby to get some food, they betake themselves into the dark again with what speed they can, or else hide themselves in dust that they may not be found.



The third sort is so unfavoury, and carries with it such a stinking smell, that from the same it is called of the Greeks *σῆψ βλάτα*, & *βλάτα*; of the Latines, *Fatida Blatta*, i. e. the stinking

stinking Moth; it hath thighs sharp with prickles, as *Pliny* describeth it, the which mark of distinction, if he had not expressed, perhaps this kinde of Kricket had not been known, or seen by me. For the black Beetles (especially the hairy ones) they are altogether of the same form, only the tail taken off. It is of a pure black glistening colour, very slow paced, as no creature the like; the body so framed and ordered, that you would swear it were winged and had



sheath wings, nevertheless none of them have any wings, no not the male it self amongst this sort of them, (what ever *Pliny* dreameth to the contrary) it hath thin slender long shanks; remains in deep cellars, and is a retainer to the Jakes; it creeps very slowly, but at the least glimpse of light, and whisper of talk, she hides her self; a shamefaced creature certainly, and most impatient of light, not so much for its ill favouredness, but the guiltiness of its conscience in regard of the stink it leaves behinde it, and of its ill behaviour: for it frequents base places, and digs through other mens wals, and doth not only annoy those that stand near it, but offends all the place thereabouts with its filthy favour. The mouth of it is forked, the back covered (as it were) with a sheath wing, so solitary a creature that you shall scarce finde

two of them together. Whether it be begotten of putrefaction, or otherwise generated by the commission of male and female, is not certainly known.

About *Francford* near the River *Main* they are frequently seen, as also in *London* in Wine-cellars, and dark dungeons; the other species are more frequent in Bake-houles, and warm places. The stinking Beetle some confound with the *Cimex* or *Wall-louse*, a creature of the like quality; but not rightly. The inhabitants of *Pern* have certain creatures which they call *Araners*: *Serius* thinks them to be Butterflies. They are of the bigness of the Kricket, they go forth a great many of them together in the night time, and all that is in the house almost that is soft they nibble about and eat it. *Lib. Navig.* Butterflies I cannot say they are, because they gnaw; and do not suck with their *Promuscis*; I would therefore either make them to be Krickets, or some new kinde of Moth, or some creature mixt and made of both. In an Epistle of a certain learned man sent to *Gesner*, there is a description of another kind of stinking Moth. There is saith he a certain stinking flying Insect in *Hungary* that stinks beyond measure; I should call it a stinking Grasshopper, but that it is more like the Kricket. In Winter it desires the light, in Summer it shuns it; when it flies it makes a kinde of a terrible horrid noise, leaving a most noisome stink behinde it. Some there are when the air is infected, carry this creature about them as some secret remedy, and adore it; nay some of them, which a hog would scarce do, will swallow them, so afraid are they of the Plague, and so desirous to use means against it. They are bred in wals: where they are most frequent there grow as they say the most generous wines, & I have found it to be true by experience. *So far Epistle.*

All the younger Moths are whitish, but at their full growth of a bright red or tawny. The stinking are as black as a coal.

Divers Authors do speak of four other sorts of Moths, viz. the Venereal, bred in the genitals of men; the Bee Moth, the Cloth Moth, and the Library or Book Moth, from eating of the Books; but none of these, but the Bee Moth agreeth with the description of the Moth; but that neither is so stinking as the one called *Bleau*, or so soft as the others before described; but of a middle nature, rather pouldred with meal than anointed with oyl. Of the rest of these we shall speak more fully when we come to speak, God willing, of the Lice and Moths called *Tinea*.

Much variety of opinion there is among the learned of the colour of the Blat Moth, or the Blattean colour. For if these Insects (of which we have now treated) are the *Blatta* truly so called, why should not the black be the Blat colour, rather than red purple colours? Certain it is, it is that the *Bizantine* *Blatta* yeelds a purple colour, as that of the worm *Cochineal* doth a red or scarlet; either therefore all colours may be called Blattean, or else this last of ours is not one. Indeed I wonder at the boldness of *Turnebus* and *Thylessius*, which will have that of the worms to be the Blattean, when as they are of no Author called *Blatta*; but rather properly it ought to be counted a Scarlet red. The Blattean colour therefore, to say the truth, is the Purple, notwithstanding our *Blatta* send forth no such kinde of liquor; but are fliers of the light, nasty, cruel, rough, theiving, living of nocturnal depredations after an infamous manner, whence *Servius* calls them *Piratas noctu navigantes*, night Pirats.

These little creatures, although they are hateful to nature it self, to Men and Bees, yet God hath endued them with sundry vertues, in which they excell the *Blatta* *Bizantine*. For take off his shell or nail, which is there between its head (called *papaver*) and its neck, what doth the belly contain but the ornament to dye withall, and to delight the eyes with their colour? And be it so that Princes and great men will buy it though never so dear, and by the greatness of the price make it only fit for Kings to wear; yet notwithstanding when you have heard the virtue of these *Blatta*, otherwise so contemptible, you will say they are far more to be esteemed than purple. For they are wonderful good for the pains in the ears, taken after this manner: Take twelve Blats with their wings cropt off, of old wine and honey ana $\frac{3}{4}$, and half the rind of a Pomegranate, of the juice of an Apple 6 spoonfuls, boyl them well in a new pipkin till the rind of the Pomegranate be made limber and soft; then beat them all together, which done, add unguentum *Syriacum* $\frac{3}{4}$ i. of Tarre $\frac{3}{4}$ i. the juice of 4 Onions pressed out what may suffice; beat all these together and lay them by for use: let this decoction be dropt into the ears, and a lock of

new shorn wool stopp'd in warm. *Galen. sec. loc. l. 3.* Experience witnesseth that the soft Blats boyled in oyl and put upon Warts, are to good effect. The mill Blat, the head being taken off and the body bruised, doth cure the Leprosie, as *Masa* and *Pithen* have left in their *Receipts*. The fat of the stinking Blat, when the head is off, beaten with oyl of Roses, *Galen* out of *Archigenes* saith is very good for the ears; but the wool in which they put it, must by and by be taken out: for that fat substance will quickly breed worms. Others write that two or three of them boyled in oyl, bruised and put into a little linnen bag and applyed, are very good for the same purpose; their entrails beaten with oyl or warm water are likewise good for the same, being dropped into the ears. *Pliny* saith, *l. 2. c. 36.* that from the two first the heads must be pulled off before they be used in medicine; from the stinking, the feet and wings, or rather that crust or shell like wings on the back, that being more hard, and more poysonous; but it hath no wings. The stinking *Blatta* moreover mingled with oyl or pitch, are said to cure Ulcers, otherwise incurable; as also Wenns and Swellings in the neck, Botches, being layed on for 21. daies together: they cure also the Scab and Follons, bruised and festered Sores, the wings and feet being first taken off. We disdain to hear of these things, yet truly *Diodorus* (as *Pliny* saith) reports that they have helped the Kings-evill, and difficulty of breathing, mixed with Roan and Honey: the moist leaved thought fit to keep the ashes of them in a horn box for this purpose, or the powder of them to put into the body by way of Clyster. *Cardan* saith they take away pains; but what pains, or what kinde of *Blatta* should do it, he tels us not. The *Phrygians* and *Lycanians*, anoint those with them that have a stoppage in the Matrix. *Pliny l. 30. c. ult.* Last of all they may serve in stead of Castoreum for an *Antiballomenon*; and *Galen* useth them in stead of the *Buprestis*.

Remedies against them.

Now if you would have a remedy against themselves, cast but a handfull of Flea-bane (the Greeks *Mascula* is the Latines *Cunilago*) and all the Blats will gather together to it. So called in Rome *Blattaria* or the Blat-herb. Nature hath provided a remedy against them for the Swallowes; they are wont commonly to spoyle the Swallowes eggs, wherefore they use to fence their young with Parsly or Smallage, whereby the Moths are forced away from their nests. The which might be thought to be the figment of *Alian*, but that *Zoroastes* in his *Geoponicks* doth affirm the same. The *Upapa* or Houpe inclose their nests with earth flax against Moths. The Chough useth the herb Vervin to the same purpose. If they be anointed with the oyl of Spike, it works the like effect, as *Joach. Camer.* reports. That they may be rid out of Gardens, let us hear *Diophanes* his advice; Get the Guts of a Ram fresh killed and full of dung, bury it in the earth where many Moths use, and cast the ground lightly upon it; two daies after all the Blats will gather to it; the which at your pleasure you may carry other where, or bury them deep enough in the place, that they shall not be able to rise again. If you would preserve your Bees from them, use sharp fumigations, or set lights near to the Hives, or else anoint the props whereon they stand, that they may not get up.

CHAP. XIX.

Of the Buprestis or Burncove, and the Cantharides.

Many of the Naturall Philosophers have made mention of the *Buprestis*, but so little, that they seem neither to have touched either their form, or qualities, no nor so much as their true Name. For *Ardoynus* calls it *Buprestis*; *Vigelius, veter. l. 3. c. 15.* calls it *Vulpester* or *Bulpester*; and in the 78. chap. *Bustrepis* most corruptly. *Silvaricus*, if any other chief at Barbarism, calls it *Bustasaris*, *Bublistes*, *Bubestis*, so corrupted was the Latine tongue in these blinde times, that Barbarism had wrought a general confusion in all places.

Now the true name of it is in Greek, *βύπρεστις*, *παρα τὸ βύπρεστις τὰς βύς*, quia boves rumpit, because it swells Oxen; *Nicander in Alex.* derives it *ab incendendis bobus*, from burning or enflaming the bowels of beasts: *ἢ καὶ πρὸς δαυδάς ἐκείνους ἀδολοῦ μὲνους*, &c.

When cowes or calves are sick, and bellies swell,
They ave eat Buprestis keepers know full well.

For first of all by their acrimony they enflame the belly of cattle, upon which followes a tumor, and a fever, and a kinde of a hot tympany, by which in the end the bowels are burst. By other, as by *Hesychius* in like manner *βύπρεστις*, καὶ βύβρεστις, which is more rightly ascribed to that kinde of red little Spider, found in pasture grounds, which doth use to bite them. In English it is called a *Blain-worm*, or *Trings*, which being eaten by cattel doth produce the like symptoms: the Latines retain the Greek name of *Buprestis*; of the Germans it is called *Gench*, *Gach*, *Knoelster*, *Gualster*, *die Grunen*, *Stinckhenden*, *Wildenmentde*, *Renkaefer*; of those of Heidelberg, from its swift running, *ein Holtzbuck*; in Italian, *Buprestis*; in Spanish, *Arebenta busi*, if *Mathiolus* say true. But I for my part, somewhat boldly, though not improperly, do adventure to call it by a new name in English, *Burncow*, or *Burstcow*.

Pennius reports that he light upon one about *Heidelberg*, and a true one indeed, who describes it thus: It appears, saith he, both in shape and quality to be a kinde of *Cantharides*, both for its force and properties, (if *Galene*, *Egyneta*, *Phavorinus*, *Aetius*, *Plinius* and *Avicen* are to be believed) but of a longer body, the outer sheath wings of a yellowish green, or rather of a golden



yellow; the thighs also are longer and thicker, the eyes globous, and prominent, out of the forehead, near the eyes come forth two long horns, joyned; the head smal; the mouth is wide, hard, strong, forked, having teeth with which he doth cruelly wound and bite; the belly not round, but very long; a great foe to the Beetle and the Lizard, aiming at their bellies (as being the softer and more penetrable part) which presently she gnawes through, and when she fears to be overcome or caught, presently she retreats and hides herself: somewhat strong of taste (as *Actuarius* saith) upon the palat. *Aetius* makes it to have a smatch of Nitre both in taste and smell. *Cornarius*, *Lonicerus*, and *Cordus* being deceived by the strong smell of it, could not forbear to say it was the same with the *Cimex* or noisome Wood-pews, and called it accordingly *Knolster*, and *Quelster*. It feedeth on flies, cankers, worms, and other the like Insects, provided she kill them in fight, for those that dye of themselves or are kill'd by others, she will not touch; when she hath filled her self with the carcases of the slain, what she leaves she drawes into her hole, and when she is hungry again feeds on them. Other savage qualities of this little creature let *Peter Turner*, and *William Brewer* (Physicians for learning and integrity of conversation second to none) relate, who together with *Pennius* at *Heidelberg* did observe its life and manners. *Bellonius* in his description of Mount *Athos*, expresseth the true *Buprestis* thus: It is (saith he) a little winged flying creature of a most strong sent like to the *Cantharides*, but greater, of colour yellow

or clay coloured; of such exquisite poyson, that the cattle when they have fed there a little while, do die of the grasse infected with its contagion. It hath its abode amongst the herbs called *Succory*, *Flea-bane*, *Nettle*, called *Vouprissis* by the inhabitants of Mount *Athos*. Thus far *Bellonius*. From whence we may truly collect that both descriptions of them do agree, as concerning their ill savour, their bigness, qualities; only they differ a little in kinde and colour. For we have not seen any of them yellow, unless I may call a greenish gold colour yellow. Neither indeed is it fit to stand so much upon the outward shape or colour; but admit that according to the diversity of the climate, they may both receive some alteration (as it is in men) and yet be the same in species. Another *Buprestis* of the right sort I have seen, the body a little shorter, and broader about the belly, the tail more piked, the head small, the eyes standing out, the mouth gaping, and forked, the sheath wing for the length of it, chamfered; of a full bright grasse and gold colour; the legs but six in number, long, proportionable to the body. The Prints of *Mathiolus* and *Grevinus*, beyond the nature of the thing, and the experience of their own eyes, expresse eight but more slender, (considering the bigness of its body, than the first sort of *Buprestis*) and blackish, the cornicles also but half so big, and smaller; it equals the first in swiftness of pace, goeth beyond it in noysomeness of savour, yea in this it excels the *Cimex* or stinking wood-lowe her self, and all wilde creatures. It hunts after Flies and Canker-worms, wherewith it is fed; so vehement strong it is, that it will kill the most deadly Spider that may be. *Pliny* saith, that in *Italy* this creature is seldome found, but now (as we have reason to believe *Marcellus Virgilius*) they are more common than the state of the countrey can well bear.

But that they are indeed venomous by nature, and very noxious to man and beast, as *Aetius* witnesseth (for they kill both by their whole substance) doth appear even by this; that those which



should give them to any one to drink, were as *Budens* saith in his *Pandects*, to suffer death. For so the Law runneth: *Qui Buprestem, vel ptyocampen, tanti facinoris conscii, aut mortiferi quid veneni ad necem accelerandam dederit; judicio capitali, & poena Legis Cornelia afficiator.* Whosoever shall give a *Buprestis* or a *Pine-tree Worm* to drink, to kill any body, or any mortal poyson, being found guilty of such wickedness, shall suffer death by the Law of *Cornelius*. I have seen about *Heidelberg* two *Buprestes* like *Scarabees*, the one of a golden green, the other of yellowish black. The one like to the former which we have described, but somewhat bigger; the outer wings all over streaked with golden lines, and shadowed with a little green; between the lines rise up bosses curiously wrought; very swift of pace according to the common nature of that Insect. But that which is of a yellowish black was sent unto me from *Vienna* by *Jacobus Quicquibergius* of *Antwerp*, who hath been a great help to me to enrich this history. The colour excepted, and that it was a little bigger, and had four horns, it altogether resembled the last we described.

The Use.

Although these Insects are such as hath been said, that they fret with their acrimony; that fretting they enflame, and with their poysonous inflammation cause extreme thirst, and a horrible swelling, insomuch that the very skin is burst; yet hath Dame Nature made them notwithstanding very wholesome, which Art afterwards hath prepared for medicine, before they be put in use. *Plinius* and *Agineta* dispute whether they should not be prepared as the *Cantharides*. *Dioscorides* dries them in a sieve over hot embers, and so layeth them by. *Galen* steeps them in vinegar. *Hippocrates* commands to take off their wings and feet. And because they fret, exulcerate, inflame and swell up, and do strongly attract and heat the parts so fretted. *Diosc. l. 2. c. 59.* saith, that being mixt advisedly with fitting ingredients, they may be applied to the Leprosie, Cancer, and wilde Tettors. My opinion is, that they may be used in stead of the bigger sort of *Cantharides*, rather than some kinde of *Blatta* (by *Paulus* his leave, if I may say so) not only because they are somewhat like in shape and figure, and in virtue also, as *Galen* writeth. *Pliny* saith that the *Buprestis* by way of corrosive doth take away Ringworms in the face. *Hippocrates* doth much commend them in divers diseases of the womb. For so he writeth in his Book of the Nature of Women; and in his Book of the Diseases of Women; and in his Book of Barrenness. For the hardness of the womb, to emollient juices and fat add a *Buprestis*, and use it. To drive out the Monethly Flowers and secondines, prepare half the body of a *Buprestis* (whether great or small) with twice as much pulp of a Fig, and apply it; for it purgeth the womb, and inflateth it, and is a special remedy to procure the Flowers when they are past hope. Sometimes he applies only a *Buprestis* (if it be a great one) sometimes making a soft pessary, he takes ten, and adds to them a little sawcer of oyl, and mingles with it Wine, *Arbipian* Cumin, *Seseli*, and Anniseed, of each alike parts, and whilst they are hot he makes a pessary of them and useth them to the Matrix. In the strangling of the womb, when the fit is over, the body first purged, *Hippocrates* makes a Medicament with a *Buprestis*, and thrusts it into the Matrix. Also for a Schirrous of the womb he useth a *Buprestis*, but warily and with diligent consideration; for he puts it in like a Suppository for one day, and when it doth much vex the patient by corroding, he bids to take it forth: moreover he compounds a *Buprestis*, Myrrhe, and Elaterium, and puts it in. So he doth also to bring forth a Mola, *Gal. l. 1. c. 1. 2. cap. 1.* out of *Archigenes*, describes a Medicament of *Buprestes*, with Vinegar, Crowfoot, and Wakerobin root, against falling of the hair, Leprosie, Elephantiasis, &c. the cure whereof you may easily finde there.

The signs of a
Buprestis be-
ing drank.

Now as I have declared hitherto its profitable qualities, so (lest I should transgress the bounds of history) I shall open the terrible effects that this poysonous creature causeth in man and beast; if a man swallow a *Buprestis*, 'tis all one as if it had been a *Cantharides*: the body swelleth, as if it had a tympany, much wind creeps between the skin and flesh, which hapneth no doubt by the flux of humours melted by the poison, and the vapours elevated upwards. The lips are of a strong colour, to wit, of a dead violet. In the mouth there is the like poysonous taste; the stomach, belly, and guts do ake extremely, the urine is stopt, the body is ill all over, as also the head and brain are sensible of it.

The Remedy.

A remedy of this is Salt-peter, taken in Wine and Oxe gall. Useful to that purpose is womans milk, suckt out abundantly, and in defect, cowes, goats, or sheeps milk. Womans urine drank, and vomited up again; but before a vomit they ought not be given, because by that means the Feaver would be more sharp. *Dioscor.* First of all therefore of good store of Wine sodden, or with oyl of Myrtle Bacon lard, or fat Pork broth, or with good store oyl of Olive, or boyled Wine a Vomit is to be made. New Wine drank freely, is held to be a special remedy against the *Buprestis*. *Galen* and *Ardoynus*. *Pliny* commends Nitre with water, or Laserwort, *Afa dulcis*, Wine and Honey, or Bezoin dissolved in warm water; or take red Nitre 4. drams, and in warm water or Posca cause Vomit. After vomit there must be means used for purgation, afterwards use dry Figs (as *Galen* prescribeth) or a decoction of them in old generose Wine when the fit begins to bate. The Thebane date is prescribed to eat alone, or bruised in sweet Wine or womans Milk: all kinde of Pears, and oyl of blossomes of Apples, are much commended for this use. *Nisander* commends wood-pears, (for that I think he means by *αχινάδα*;) and especially Myrtle berries) following the authority of *Dioscorides*. For that they do refrigerate and bind, and by that means do assuage the hot nature of the *Buprestis*, and help the weakness of the stomach. But heed must be taken they be not eaten while the body is yet swoln, lest the disease be increased by the poyson being kept in. Some with good reason give 31. berries of bladder Nightshade, and with Almonds the make Almond-milk, together with the decoction of Lettice, Violets, Borage, Bugloss, garden Nightshade, Plantain, Raisins, and the great cold Seeds. *Actius* gives the root of Scorpion-grass in sweet Wine to drink. Many extoll the wings and feet of the *Cantharides* for an Antidote against the *Buprestis*, but either it hath an opposite quality by antipathy, which makes good that opinion, or else we may suspect it to be false.

L. 2. 78. Cit-
mate.

If an Horse or an Oxe eat one of these flies, presently he swells, growes mad, and shortly after bursteth and dieth. So *Alian. 6. de Anim. c. 35.* and *Hierocles* a Greek writer witnesseth it. He bids to binde the horses head, and to open the veins about his nostrils, that the blood may run forth of his mouth, and to rub it with Coleworts, and give him Fish-pickle and Oyl: and *Vegetius* likewise almost in the same words: If a Horse or an Oxe eat a *Buprestis* with the grass, his belly will instantly swell, he is inflated all over, he refuseth his meat, and he often and by little and little sends forth his dung.

To cure this, *Abfyrus* and *Vigetus* prescribe one; and the same remedy: presently get upon the Horse and cause him to gallop as fast as he is able, afterwards let him bloud a little in the roof of his mouth, and let him swallow the bloud as it runs forth, chewing it in his mouth; then keep him continually walking; let his diet be wheat steeped in sweet Wine with Leeks given him with a horn in Wine warm well beaten with Raisins. Some, as *Praxanus* taught them, pour Oyl into the nostrils of the Oxe, *L. 17. c. 17.* To Goats that are swoln with the Buprestis, apply Bacon-lard, or pour the fat broth of it down their throat, saith the same Author.

The Cynoprestis seems to be the same with the Buprestis, for that works the same effects in Dogs as this doth in Cattel: or if it be a different sort of creature from this, I confess ingenuously I have not met with it.

CHAP. XX.

Of the Cantharides, or Spanish Fly.

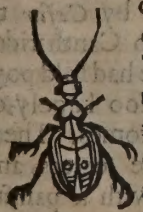
I know not what the reason was that the Cantharides above the rest so well known, of so great use in Physick were omitted by *Pennius* and *Gesner*. Which task notwithstanding I shall willingly undertake, and thus I begin their History. The word *καρθαεις* in Greek is the same in Latine; in French, it is *Cantaride*; in Italian, *Catarella*; in Spanish, *Cubillo*; in the German Tongue, *Grune, Kefer, Goldkefer*; in Low Dutch, *Spaensche, Ulieghe*; in English, *Cantharides*, or *Spanish Fly*.



Of the Cantharides two sorts have come to our knowledge, the one greater, the other lesse. Of the greater sort there are some thick and long, taken in wheat; and fat likewise as the Blats are, drawn with variety of golden lines, which in the wings run athwart, and those are accounted of the best use in Physick. Others are lesse and lean, hairy, called the innermost, not so fit for medicine. Of the greater sort also not all are of a glittering green, but some of them of a sad red, but all of them of an inexpressible splendor, and very pleasant to the eye.



The smaller Cantharides *Thomas Decat* first of all acquainted me withall, they seem to differ a little in shape and bigness; but have all the same virtue and original. Of these lesser, the first hath a long forked head, with black eyes standing out, the cornicles long and black, the wings coming forth of the middle of the loins; the which are marked with two silver coloured spots, and a few other white specks. They are commonly found in Kexes, or Asie Partly in the summer time. It hath feet and thighs very slender and long; of colour virmillion inclining toward a purple. The second is of the same colour with the first, but only that the eyes and cornicles seem to be green. Of the third the head and shoulders are not to be



distinguished, of a rusty colour, and the eyes as black as pitch; the wings of like colour with the head, but glittering with golden streaks, the feet black and short. The fourth is like the third, but only it is rather in colour of grass green, not rusty as the other: otherwise, except the bigness (for it is the least of all) it doth not differ. As well the greater as the lesser of these Cantharides, do not come of living creatures, but of dry and moist putrefaction. The race of Cantharides is bred in wheat and corn fields, and in fig-trees also. *Τὸ κατὰ φύσιν ἐν τοῖς σιτοῦ καὶ κριθῶν καὶ ἐν τοῖς κρηταῖς*, as *Alian* hath it word for word out of

Arist. in his 9. Book and 39. Chapr. They are bred also of the sponge of a Rose called *dens Caninus*, and of the Catterpillars which are found in Fig trees, Poplar, Pear tree, Ash, Olive, Rose trees; for in all these there are worms bred that are the originals of Cantharides, but in the white Rose they are less effectual. The Cantharides couple and generate likewise, but not a creature of their own species, but a worm only; they feed upon pulse and grain, but especially of wheat, and those which are so fed are accounted most fit for Medicine: they smell like Tarre, taste like Cedar, as *Nicander* reporteth.

Their virtue consists in burning the body, causing a crust, or (as *Dioscorides* will have it) to corrode, cause exulceration, and provoke heat; and for that reason are used mingled with medicines that are to heat the Lepry, Tettars, and Cancerous sores.

And in being mixt with Cecots or fit plaisters, they do cure deformities of the nails, causing them to fall off. They are used in medicines for Corns on the feet or hands.

Some

Signs and cure
of Canthari-
des drank.

Some anoint the places where the hair falls off, with Cantharides bruised and liquid Pitch, the skin being prepared with Nitre : they are good for Cantheries, but care must be had that they do not ulcerate too deep ; then some command to annoint those ulcers made, with the heads, or with the gall or dung of Mice mixt with Hellebore and Pepper. Cantharides mixt with quick Lime, cure Botches, as if you should cut them off with a razor. Some use to cast a little of them into Medicaments to provoke urine. But there is a great question of it, because they are poyson drank, in respect of the bladder that they afflict with perpetual torment. But there is no question but in oyntment they may do good with the juyce of wilde Vine, or with Sheeps or Goats suet. Some of my Masters put only their wings and their feet into Medicaments that provoke urine. We, saith *Galen*, are wont to cast in the Cantharides whole, and we judge those to be the best, that are found in wheat, and have a yellow girdle running athwart their wings to adorn them, *L. 3. & l. 11. de simpl. fac.* also put under, they mightily provoke the terms, and put to medicaments for the Dropsie, they are a very good antidote against it ; as not only *Hippocrates*, and *Dioscorides*, but *Galen*, *Avicenna*, *Rhasis*, *Pliny*, and the best writers do testifie amongst Physicians. I cannot here praise sufficiently the excellent use of them, with Leven, Salt, and Gum Ammoniac, to divert Catarrhes, to cure the Gowt in the feet and hips ; by drawing the matter that lies deep, from the centre to the superficies. Also they are good against the venome of the Salamander, as *Pliny* teacheth *l. 29. c. 4.* Also in some cases and in some compositions, they are good for such as want erection, and do promote venery very much. But as rightly mixt and exhibited in due proportions, they are good for ones health, so being not rightly mingled and given disorderly, they cause cruel symptoms and sometimes death. When *Anno 1579.* I staid at *Basil*, a certain married man (it was that brazen bearded Apothecary that dwelt in the Apothecaries shop) he fearing that his stopple was too weak to drive forth his wifes chastity the first night, consulted one of the chief Physicians, who was most famous, that he might have some stiffe prevalent Medicament, whereby he might the sooner dispatch his journey. But when it was day-break almost, there followed a continual distending of the yard without any venereous desires, and after that bloody urine, with inflammation of the bladder, and the new married man almost fainted away, all Antidotes profiting nothing a great while. I remember that the same thing hapned to a Noble man of *Francfort* in my remembrance, whom when an illiterate Physician thought to cure him of the Dropsie by giving him Cantharides, one in number inwardly, he killed him with lamentable torments. I have a singular remedy against the weakness of the Genital part, which when I used it indifferently, however it did great help to many Noble men, and no hurt, (who generally are more studious in venereous matters) yet it did one amongst the rest so much harm, that after venery (which he was too much addicted to) he pissed blood continually, and swoounded away frequently ; truly unless there had been plenty of milk at hand, this *Venus* bird had died and suffered deservedly for his Lechery and lasciviousness. Thus far for their Physical force, now we shall pass to their deadly and ignominious qualities. They are held to be amongst the number of poysons most deadly, not only by reason of their corroding and inflaming, but by reason of a putrefying quality they abound with. Their juyce entering into the veins either from the stomach, or by the skin, destroys a man like to poyson. Therefore *Ovid* when he wished mischief to his enemy, *lib. Trist.* wishes that his parents might give him the juyce of Cantharides to drink. *Cicero ad Petum l. 9. Epist. famil.* Cajus by the accusation of *L. Crassus* is said to have taken Cantharides : as if by that means he was resolved to kill himself. *Gal. l. 3. de Simpl. fac.* writ thus : If they be taken inwardly in a very small quantity, mingled with things fitting, they powerfully move urine, and sometimes corrode the bladder : whence it is manifest, that all things that kill by a cold quality, if they be taken in a small quantity they may nourish the body : but such as kill by putrefying (as Cantharides do) not at all ; since they are enemies to mans nature. *Cossiles* a Roman Knight, well noted for his familiarity with *Nero*, when he was sick of a dangerous Tetter, a Physician was sent for by *Cesar* to cure him, who gave him Cantharides to drink, and so killed him. *Pliny*. Also Cantharides were objected against *Cato* of *Utrica* (as the same Author saith, *l. 29. c. 4.*) as if he had sold poyson by open sale, because he set them at 60. Sextertia. But when they are drank too largely, or applied outwardly too long and too deep, they are wont to produce these symptoms. There happens pricking and pain in the bowels ; which is extended from the mouth to the secrets, and to the loyns, and haunches, and hypochondres, and they ulcerate the bladder with a painful ulcer, and inflame the yard and the parts adjacent with a vehement Impostume : then they piss blood, and after that pieces of flesh. Sometimes there followes a Diarrhoea and Dysentery, swoounding and dulness, and the minde is perverted, and there is nauseating and heaviness, and a frequent desire to make water and go to stool ; but almost it is in vain. They taste a taste of Pitch in their mouthes : all which symptoms are set down in *Dioscorides l. 6. c. 1. Gal. lib. de Theriac. ad Pison. c. 4.* and *l. 3. de Temper. c. 3.* and in *Rhasis lib. 8. c. 17.* To those that are so infected and affected, *Dioscorides* first prescribes frequent vomiting, then frequent Clysters made with Nitre to cleanse the guts ; then to preserve the bladder, he gives milk inwardly and flea-seed. And he will have their Clysters made of other matter than at first, namely of Barley water, Marsh-mallows, whites of Eggs, Musilage, of Linseed, Rice-water, decoction of Fennugreek, Hydromel, fat Broths, Oyl of sweet Almonds, Goose-grease, yolks of Eggs. Also he bids to give inwardly Cowes milk that is sowre, Hydromel, kernels of the Pitch-tree, the great and

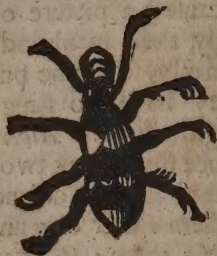
the small, sweet new Wine, Ducks grease, a decoction with Diuretick seeds, (namely the four great cold seeds) and decoction of figs with syrup of Violets. Oyl of Quinces is commended as the certain Theriack for this disease, as also oyl of Lillies, and Samian clay. *Rhasis* after that Clysters of fat Broth are cast in, will have incoction made into the yard with Oyl of Roses, and the sick shall be put into a warm bath in a great Vat. *tit. 8. c. 17.* Authors are not agreed in what part the poyson of Cantharides doth lie. Some think it lyeth in he head and feet, and others deny that; yet they all agree that the wings are an Antidote in what part soever the poyson lyeth; and those being taken off it is deadly; so that this venome hath its remedy joyned with it. *Plin. l. 11. c. 35.* *Lyrus* of Naples writes that Purslain is an Antidote against Cantharides, which *Pliny l. 20. c. 13.* affirms of white Basil: who also *l. 23. c. 2.* and *4. l. 28. c. 10.* commends very much Vinegar of Squils, Oyl of Dill, Cowes Milk, and Broth of Goats flesh. And thus much shall suffice for the History of Cantharides, which I wonder that the most learned *Gesner*, and especially *Pennius* overslipt.

CHAP. XXI.

Of Beetles.

THE Beetle is an Insect that may be called *καλέοντες*, as if he had his wings in a sheath. **The Name.** It is bred of putrid things and of dung, and it chiefly feeds and delights in that. The Greeks call it *καλέοντες*; the Tyrians, *βύρρον*; the Germans *Kaefer*; the Italians *Escuravaio*, *Pololero*; the French, *Escarbot*; the Polonians *Krewka*; the Illyrians *Krabak*; the English, *Beetle*, or *Bug*; the Northern English call it *Klock*; but the Southern, *Starkenbeken*; the Arabians, *Kanasis* and *Kanasēs* by *Avicenna*. The Greeks all with one consent, hold that all Beetles are males, whence **Their Sex and Description.** one may easily understand the sense of *Ausonius* his Epigram upon *Marcus* that was gelded. *Rhodiginus l. 8. c. 5. Antiq. lect.* renders it to us. Also the Egyptians caused a picture of this creature to be made on the starnes of their Heroes, intimating thereby their manhood, that had no mixture of feminine weakness; for men must be valiant and manly, feminine pusillanimity is a great disgrace to them. All Beetles cast their skins, and they have no sting: when you touch them they are afraid, and they leave off to move, and they grow hard. *Albertus* did vainly ascribe to them four wings hid under a crusty cover, for experience shewes but two, very tender and frail, wherefore they have them shut up in a hard cover over them, to defend them that they may take no hurt by hard bodies. For the greatest part of them either digs under ground, or bites rotten wood with their teeth, and makes houses and nests there: so that if they were not excellent well guarded, they could never keep themselves safe from external injuries. When they fly they make such a humming or noise in the air, that *Laertius* writ that the gods talk with men by these creatures. Of all plants they cannot away with Rose trees, and they hate them as the destruction of their kinde; for they dye by the smell of them (as we read in *Geopas*) but on the contrary they take great pleasure in stinking and beastly places.

I remember one was wont to cleanse privies, when he came into an Apothecaries shop at *Antwerp*, and smelt the spices, he presently fell down in a swoond, which one of the standers observing, he went and gathered up some horse dung in the street and put it to his nose, and so a man used to stinking smells was recovered by a stinking smell. Therefore it is no wonder if a Beetle (that we said before was bred and fed with dung) being anointed with oyl of Roses, be killed thereby; they are the words of *Clemens Alexandrin. 2. Pedagog.* which also *Plutarch* elsewhere, and *Alian* also affirm. They abhorre the smoke of *Alaud*, especially of the leaves as of *Pulsamus*, *Acegi*, Cow dung, and *Nigella* seed, *Rhasis 88.* The Hemerocallis of *Dioscorides*, is called by some *αντιβητος*, for the great force it hath to kill Beetles: but as they do extremely shun those plants, so they very much affect Ivy to be under its shade, and they naturally delight to go under it, under which when they are gathered in heaps, it is an easie matter to catch them, for they will hardly go from it. Beetles are some greater, some less. The great ones, some have horns, others are without horns. Those that have horns, some are like Harts horns, others like Goats horns, others have Bulls horns, others have Rams horns: some have horns in their noses: we shall speak of them all in order. The *πλάστιξ*, or Harts horn Beetle is called *Lucanus* by *Nigidius*; as *Pliny* witnesseth. Some call it the Bull, others the flying Stag: *Hesychius* calls it *αετὸς*, because it laies hold on things in its way with thorny horns; the Comedian and *Eustathius* call it *πρωτόβητος*, because it is the greatest of all; *Carranus* calls it *οραεβλητος*, a word compounded of Greek and Latin; *Gaza* calls it *αετὸς*, the Italians call it *Cereti*, and vulgarly *Polupeso*; the French, *Cerf volant*; the English, *Stag-fly*, or *Flying-fly*; the Hollander, *Vliegheende hert*; the Illyrians, *Gelin*; the Poles and Slavonians *Krowka*, *Wielka*. Amongst all the horned Beetles, for the shape of its body, length and magnitude, it may challenge the first place, and is the most noted. It is blackish, of a dark red, especially about the outward cover and the breast; it hath two whole horns without joynts, and with branches like a stag as long as ones little finger in such as are grown up, but they are less and shorter



The use of
broad horn
Beetles.

The name and
description.



ter in the young ones : or (as *Pliny* saith) it hath long and movable horns nicked with cloven pincers, and when it will it can bite or nip with them. For it will close them wonderfully, and useth its horns for that end for which Crabs and Lobsters do their claws. The eyes are hard, putting forth and whitish, it hath fore-yards on both sides of them, one pair that are branched between the horns & the eyes, the joyn't whereof makes almost a right angle, and two more breaking forth of the midst of the forehead straight and plain, ending as it were in a little smooth knot; it goes upon six feet, the fore feet are longer and greater than the rest. *Lo-nicerus* makes this to be the male : but I (if there be any distinction between the male and the female) shall not doubt to call it the female; both because the other kinds of beetles are less, (for as *Aristotle* observes the males in Insects are far less than the female) and also in copulation the females receive from the lesser, as experience confirms it. The male is altogether like it, but 'tis less both for body and horns; which though they be not branched on both sides, yet pressed together they do more sharply prick ones finger, than the female doth. The third is three or four times less than the former; a black colour, with little cloven horns, near to which there arise two fore-yards distinguished with many joyn'ts. It hath eyes a little standing forth, and that are great in respect of its body. The shoulders on both sides end in an acute angle. It feeds for

the most part in a clammy fat juyce coming forth of the oak; nor is it easily to be seen but where oakes grow. The fourth kinde is very rare, it hath two little horns, thrice branched inwardly, they seem whitish from black, the back is parted with black and white spots, but the belly with silver coloured and blew. It goes on six feet, which are no less black than the fore-yards: when the head is cut off, the other parts of the body live long, but the head (contrary to the usual custome of Insects) lives longer. This is said to be dedicated to the Moon, and the head and horns of it wax with the Moon, and do wane with the Moon, but it is the opinion of vain Astrologers. The horns

are not without their Medicinal vertues; for they cure childrens diseases; for hanged about their necks, if they be great horns and full of branches, they serve for an Amulet. Laid to scrophulous humours and the Gout, they help much, especially if they be applied with the earth they have cast up. *Pliny*. If horned Beetles they call stags, be boyled in wine, and the arteries of the armes be anointed with it, it cures Agues. *Miraldus*. But I note by the way, that *Guillerinus* of shell fish, was not very wise, who writing a Book of the Nature of things, was quite out, when he placed that flying Stag amongst the Grasshoppers; sometimes he makes it a Locust, sometimes a *Bruchus*, sometimes he confounds it with a Glow-worm, conjecturing every way, but teaching nothing. The Philosopher saith that those Stag-flies are bred only from worms

growing in rotten wood. But I rather approve of it, that they breed from dung as experience testifies. *Αιζόκαρος, τραχέκαρος, κεραμβύς, κεραμβύλος* (these are words that are synonymous) in Latine, *Capricornus*; the Germans call it *Holtzback*; the English, *Goat-chaser*; in greatness and colour it resembles broad-horn, it hath a little broad head, great ox eyes, almost three fingers over-

thwart in length; it hath a forked mouth, gaping and terrible, with two very hard crooked teeth; with these whilest he gnaws the wood, I speak by experience) it doth perfectly grunt aloud like a young pig. May be this is the reason why *Hesychius* hath related that they bound to a tree, will drive away fig-gnats. The shoulders of it are curiously wrought by nature, they seem to be a hilt made of Ebony and polished, it hath six feet, distinguished with three little knees; but they are very weak and faint, and altogether unfit for such a burden. These receive help by two horns that grow above their eyes, and are longer than their whole bodies, they are flexible with nine or ten joyn'ts; not exactly round, but are rough like Goats horns, which although it can move them every way, yet when it flies it holds them only forth directly, and being wearied with flying, she useth them for feet: for knowing that his legs are weak, he twists his horns about the branch of a tree, and so he hangs at ease; as our *Brucerus* saw in the Countrey about *Heidelberg*; in that it resembles the Bird of Paradise, which wanting feet

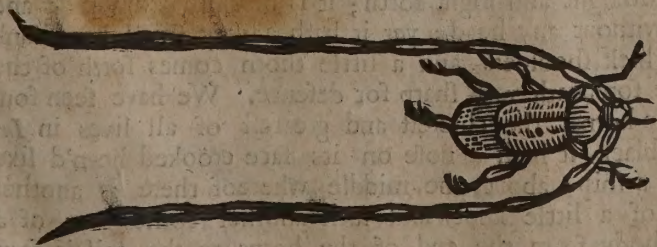
feet, clings about the boughs with those pendulous nerves, and so being tired with labour, takes its ease. They thrust upon us some German fables, as many as say it flies only, and when it is weary it falls to the earth and presently dies. Those that are slaves to tales, render this reason for it: *Terambus* a Satyrist, did not abstain from quipping of the Muses, whereupon they transformed him into a Beetle called *Cerambyx*; and that deservedly, to endure a double punishment, for he hath legs weak that he goes lame, and like a thief he hangs on a tree. *Antonius Libealis* lib. 1. of his *Metamorphosis* relates the matter in these words: *The Muses in anger transformed Terambus because he reproached them, and he was made a Cerambyx that feeds on wood, he is seen upon wood, and he hath crooked teeth, and he alwaies moves his jawes; he is black and long, having wings on his belly, as the greater Beetles have; he is called the Wood-eater Oxe; but in Thessaly, Cerambyx. The children catch them to play withall, and they pull off its head and carry it, and it shewes with the horns like a harp made of a Tortois-shell.* Which words, whilest *Xylander* strove to put them into English (one otherwise well skill'd in the Greek tongue) he committed two great errors; first, by taking *Cerambyx* for a Bird when he called it a Fly; secondly, because he translated it, that the head with the wings are like a Harp, when as the Greek book hath it the horns. But whether this be that kinde of Beetle that runs up and down, and makes a noise like a kid in the leaves of *Briphia*; (the Wizards say there is no better remedy to cure the voice) truly I am ignorant of it, but I suppose it is the lesser Beetle, because the stalk of Fennel gigant would scarce contain

this when he is grown great. We have seen divers kindes of *Cerambyces* besides this we now speak of, one that was like to the first of these, but differing in magnitude and colour; the belly thighs and horns were of a waterish blew; the shoulders, tail and cover wings were varied with some black spots, also the joynts of the horns were black; the hinder legs grew longer than the rest: we received these from *Quickelbergius*, who sent them from *Antwerp*; we have one more that is green without, and underneath dun coloured; the head, shoulders & cover wings are a dark green, and shining also with gold: it is something a long body, and seems like the other, but it is something less; it hath purple horns, but the feet and the legs are of a violet colour. I first gave to *Pennius* a third that was of like colour to this, it smelt almost like Nutmeg and Cinamon. But that sweet smell (as good as the oyl of Myrrhe) presently when it dies evaporates into the air, and leaving the body, doth wholly insinuate it self into the box it was kept in. *Cardanus*

makes mention of this Beetle, but I know no man that found it before me.

There is yet one of a shining black, that hath a great belly, thick, with a body and horns shorter than the rest, the joynts of the horns are not round as they are in the rest, but lightly saw'd on both sides. *Pennius* saith he is beholding to *Carolus Clusius* for it. The fifth is altogether like the first for head, mouth and reeth, with very black eyes; a brown colour all over the body, a mouth wide open and dented; the head, neck and wings are bespotted with very small black spots; the body of it is almost as great as the second *Cerambyx*; it is but seldome seen, it lives in houses and dry wood. The sixth is ash-colour with a very little head, the eyes are both white, the horns are somewhat long, joynted, distinguished with white spots; the cover wings, and almost the whole body

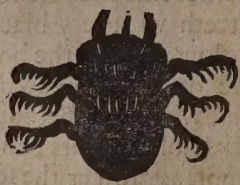
is



is various, it is conversant in houses, but whether it dwell in wood also I know not. I saw the seventh brought from *Russia* by *Edward Elmer*, it was brownish all the body over, it had round joynts on the horns 7 or 8, it is easily known by its form. There is an eighth kinde not far differing from this in figure and magnitude, but that the head, shoulders and wings are blewish.



The Use.



Jochimus Camerarius sent a ninth to *Pennins* (he was one that deserved singularly of the Common-wealth of learning) the wings and feet were of a sandy colour; the head, the horns and belly were blackish; he had bowed horns made with many turnings and knots, which he turned to both sides in the twinkling of an eye; it creeps upon plants (especially on *Cythifus*) I think the Beetle which *Johannes de Chaul* describes *lib. de varia quercus historia*, ch. 26. is of this kinde: There dwells a creature in the oake, of the kinds of Beetles, (so far as we can conjecture) it is of a blackish colour with long legs, carrying two prickles in its head a little crooked, wherewith he layes fast hold of what he meets with. Those Carpenters that how timber of oake, found this little creature alive in the very heart of the oake. The countrey people of *Lyons* call it *Thurro*; it lives best and longest in roofs of houses, and it sometimes comes forth and shewes it self making a little noise, in places where stoves are. *G.* of pious memory, *Epist.* l. 3. saw such a one, or one like it, voided by an old woman that was sick of a *Pleuresie*, his words are these: An old woman that was sick of a *Pleuresie*, voided a black Beetle downward, after she had drank a Potion of our *Oxymel* with a decoction of *Fenugreek*; it had long feet, horns that were joynted and were flexible; it was full of raw putrefaction, and alive; it was as long as two joynts of ones finger. The tenth is all purple coloured from black, and hath a forked mouth. The eleventh is all black. The twelfth hath horns that are not so much joynted, the head and

shoulders are blew; all the rest of the body seems a bright red. However you see the horns of all these, some straight, others crooked in their pictures, (for to explain them the better) yet for the most part they wear them with a bending of them backward to their shoulders, as goats do, as you see the first *Cerambyx*: and upon that account I think it fit to put them into the same rank. And thus much for *Cerambyx*, or *Capricorn*, and its kinde.

I have learned no other use of them in Physick, than that taken in the left hand, they drive away quartain Agues. *Plin.* l. 30. cap. 11. It may be posterity, by better experience will discover more of their vertues, and will not suffer themselves to be perswaded that a creature God hath made so curiously can want rare vertues in Medicaments, which he hath bestowed on far baser things (according to his goodness unto mankind) Flitter-mice take this for their chief dainties, and prefer it before Gnats, especially if they can catch them and squeeze them alive.

Bucalus, or *Taurogaster*, Oxe, or Bulls horns rather, hath alwaies two horns standing straight and right forth; it is blackish from red, and seems almost without any head; yet it hath a very small head sunk into its short thick shoulders, and a little thorn comes forth of the middle of the forehead, very sharp for defence. We have seen four kinds of Nose-horns, the chiefest and greatest of all lives in *India*, it is very black, it hath a nose on its face crooked horn'd like to the stern of a ship; about the middle whereof there is another horn bent inward, and comes forth of a little knot, and such another comes out of a bunch on the shoulder; the whole body from the end of the horns to the tail is four inches long, and it is about two inches broad. Like to Beetles it hath no female, but it shapes its own form it self. It produceth its young one from the ground by it self, which

Joch.



Joach. Camerarius did elegantly express, when he sent to *Pennius* the shape of this Insect out of the storehouse of natural things of the Duke of Saxony; with these Verses:

*A Hee begat me not, nor yet did I proceed
From any Female, but my self I breed.*

For it dies once in a year, and from its own corruption, like a Phoenix, it lives again (as *Monimus* witnesseth) by heat of the Sun.

*A thousand summers heat and winters cold
When she hath felt, and that she doth grow old,
Her life that seems a burden, in a tomb
Of spices laid, comes younger in her room.*



The second kinde of Nose-horn very rare and worthy to be seen, sacred to Mercury, *Carolus Clusius* sent painted from *Vienna*, where it is very frequent, the form is as you see it: it would seem all pitch colour, but that the belly is a full red; that crooked horn in the nose is so sharp, that (what is said of an Elephant going to battle) you would think it had got an edge by rubbing it against a rock. The third Nose-horn, and fourth seem to be alike, but that the former hath wings growing out longer than the sheath covers, but the others are shorter. You would say they were rub'd with shining ink, they are so perfectly all over black. The Ram or *κερκορας*, hath knotty horns, violet colour, a head greenish from gold colour, the shoulders like vermillion, a purple coloured belly, sheath wings of the colour of the head, it goes forward with legs and feet, of a light red, but the wings shut up in the sheath, do fitly express the small whitish membrane of a Cane.

The greater Beetles without horns are many; namely, that is called *Pilularius*, and another that is called *Melolanthus*; another purple, one again that is dark coloured; one called *Arboreus*, and another *Fullo*. Some call the *Pilularius* the dunghill Beetle, because it breeds from dung and filth, and also willingly dwells there. The Greeks call it *κορπιδν*, and *ηλιονιθιας*, and from its form like a cat, *Αινεσμορς*; the Germans, *Rosskafer*, *Kaats*, or *Mistkafer*; in English, *Dung-beetle*, *Sharnbugg*; in French, *Fouille merde*, as you would say *Dung-digger*; the Latines call it *Pilularius*, because it turns up round pills from the dung, which it fashions

by turning it backwards with its hinder feet. *Porphyrie* doth thus describe the nature of it: All your *Pilularii* have no females, but have their generation from the Sun; they make great balls with their hinder feet, and drive them the contrary way, like the Sun it observes a circuit of 28. daies. *Alian* saith almost the same. There is no female Beetle, it puts the seed into a round ball of dung, which it rowls and heats in 28. daies, and so produceth its young. They would say

R r r r

thus

thus much: that the Beetle called *Pilularius* makes a round ball of the roundness of the Heavens, which it turns from East to West so long, till it hath brought it to the figure of the World; afterwards it laies it up under the earth where it breeds, and when that hath to laid it up, it lets it remain there for a Lunary moneth; when that is ended, it casts every ball out of its nest by it self, which being dissolved in water, the Beetle-worm comes forth without wings, but in a few daies it growes up to be a flying Beetle. For this reason the *Egyptians* consecrated this to *Apollo*, and adored it for no small god, by the curious interpretation of *Apion*, whereby he collected, that the likeness of the Sun was given to this creature, and so he excused the idolatrous cultomes of his Countrey, *Pliny* and *Plutarch*, *Symp.* 4. They wonderfully hate *Roses* as the plague of their family; but dung, especially of *Cowes* and *dunghills*, they love so much, that smelling the smell of them a very great way off, they will fly suddenly to it. *Theoph.* of *Smel.* But they go but slowly, yet they labour continually and exceedingly, and delight most of all to produce their young ones, for oft times the little round balls that they make, by the injury of the winds or of the place, fall away, and fall from a high place to the bottome; but this Beetle desiring a propagation, watcheth with perpetual care, and raising this *Sisyphian* ball to its hold with continual striving, and that tumbling back again, at length she reduceth it. And truly unless it were endued with a kinde of divine soul (as all things are full of Gods wonderfulness) it would faint and be spent in this great contest, and would never take this pains any more. Some say they die being blinded by the Sun; but the most think they are choked by lice (that creep all about them) they hardly hold out one winter. They chiefly delight in the shade of the *Ivy-tree*, as most healthful for them. *Praxan.* in *Geopon.* I have set down the form of it so exactly, and in its colours (for it is all black) that I need say no more. Beetles first breed from dung (saith *Jehan. Langius*) as the Worms breed out of rotten wood: then their seed being shed into a round ball, and the same being enlivened, breeds their young ones: every one knowes this sufficiently, unless they live where no dung is; for in dunghills they are obvious to every Man.

Their use for
our understand-
ings, and by
example.

Beetles serve for divers uses, for they both profit our mindes, and they cure some infirmities of our bodies. For when this living creature, (and scarce a living creature, for it wants some senses) being of the basest kinde of Insects, and nothing but a crust, doth excel man in divers faculties; this should teach us modesty, temperance, labour, magnanimity, justice, and prudence. For though its house be but a dunghill, yet it lives contented therewith, and is busied and delighted in it; nor doth it more willingly drink or eat amongst *Roses* than in *Goats* dung, which smells in its senses as sweet as *Marjoram*. For it lives by the law of Nature, and will not exceed her orders. The greatest care it takes, is to make the greatest balls it can, as if they were sweet balls, which with wonderful labour it rolleth from her; and if it chance to roll its burden against some heap, that the balls slip away and fall down again, you would imagine that you saw *Sisyphus* rolling a stone to the top of a mountain, and falling back again upon him, yet is it not weary, nor will it rest, till it hath rolled it to its nest, so earnest it is about its work. But we poor men do nothing that is worth our labour, or as we have power to do, and we give off in the very steep entrance of vertue, and we spend all our pains and daies in idleness, following ill counsel, till we get a habit of mischief to our own destruction. Who doth not see the courage of the Beetle? if he shall observe him fighting with an Eagle (as 'tis related of the Beetles in *India*) I believe that it will come to pass, (as *Erasmus* said) that some man extremely favouring the Roman Commanders, will lament for the Eagle, that the combate falls out upon so kingly a Bird to fight with so mean and despised enemy, for to conquer it, it is no glory, but to be conquered by it is the greatest shame, and the Beetle will win praise enough that he strove with an Eagle, though he should be overcome. The Poets say that *Ajax* was ashamed of so weak an adversary as *Ulysses* was, and valiant Captains disdain to contend with common souldiers. Again, a man would wonder whence this mean Insect hath gained so much courage, and boldness, that it dares wage war with the strongest of Birds; also whence it hath means, force, faculties, and patience, that it can contend so many years with the Eagle, without any reconciliation. But if any man will unfold this secret, and view this contemptible creature nearer, and as it were at home, he shall observe so many rare properties of it, that when he hath considered all, he will desire to be a Beetle rather than an Eagle: yet that no man may stop or stay me before he knowes the matter: First of all, it exceeds the Eagle and men too in this respect, that it yearly renews its old age, and growes young again. This is so great a matter, that I think all earthly potentates, when they come to that inmiabile old age, that they must part with all, would rather with Beetles change and cast off their dregs, than they would receive a seven fold Crown. Again, what huge courage of the minde is there in so small a body? what an heroical magnanimity? what a force it hath in battel? that *Homers* Fly is nothing to the Beetle. It hath not a wit so common, but it was of old reputed for it, and commended in all places. Hence was that Greek proverb *Karbidēs* σοφώτερος. *Wiser than a Beetle*: whereby they ascribe to it, a singular and incomparable wisdom. Nor doth that concern me if any man will cavil and say he dwells ill favouredly in an uncomely house, for I shall rather justly condemn their household government, who being ill favoured themselves, and of filthy conditions, do build their houses curiously and lustily with so great care, and charges of King *Attalus*. Moreover, that it useth the excrements of living creatures for its own commodity is no fault, but a commendation of its wit and ingenuity. As though we that are Physicians did not the same things, as often as we apply the blood, the flesh, the urine, and some-
times

times the ordure and dung of living creatures to our patients, and sometimes we give them in Potions. Nor are Alchymists ashamed (who would be divine men indeed, and not mortal, could they obtain what they aim at) to use dung to draw forth that quintessence. Nor are husband-men (a sort of people that of old time none were more honoured, none more sacred now) ashamed to dung their fields. And it is probable they first learned their Art from the Beetle called *Pilularius*. For why should it chiefly include its seed in dung, unless God would have that there should be in that a great deal of vegetative heat and moisture, whereby principally generation is perfected? Hence it is that wise Farmers dung'd their fields to make them more fruitful, and to conquered that horrid leanness, barrenness and poverty of their grounds. But you will say that the Beetles *Pilularii* like the smell of so stinking a thing. It were a folly to look for a mans nose in a Beetle, for that is peculiar to man to be displeased with the sent of his own dung, and so is it not with any other creatures; therefore the Beetle is more happy than we, but not more uncleanly: yet men are not so much offended with it, as it is, but as they conceive of it. For of old time it did not seem abominable to them as it doth to us, for they called it by a lucky word, *Lutamen*, and they thought fit to call *Saturn* the dunghill god; for his honour, if we will believe *Macrobius*. For *Pliny* saith that *Sterculus* the son of *Faunus* got not only the name, but also immortality by it in *Italy*. Moreover the same thing in *Greece* procured to two Kings great glory; to *Angeas* who invented it, and *Hercules* that spread it abroad. Lastly, the memory of that old King will never be abolished, whom *Homer* (as *Cicero* saith in *Cato*) commended to posterity for dunging the ground with his hands, and for no other thing but that the Beetle is delighted in. A Roman Emperor was nothing offended with the smell of urine, if it brought profit with it. Wherefore then should we be offended with the *Pilularii*, who hath so many good properties, for one small inconvenience? if we call that an inconvenience that is most commodious for the fostering of its young. Lastly, when we see the Beetle, though in the dung, alwaies clean, and his shell alwaies neat; compare him with men polluted and infected with stews and bawdy houses, and I shall ask which of the two is most cleanly? And I think it had its name *Kabagos* a Beetle from *Kabagos* pure and clean. If any man thinks these gifts to be trivial and vulgar, yet no man but will think that a magnificent thing, and worthy of great honour; that of old time the Beetle was the chiefest amongst their sacred images and myteries of their Soothsayers. It is the most apt Ensign of a famous warrior. For (as *Plutarch* reports in his Comment of *Isis* and *Osiris*) in the hieroglyphical pictures of the *Egyptians*, an Eye was the Embleme of a King, a Scepter being added to it, for it signified a right and just administration of things. But he saith, at *Thebes* their Images that wanted hands, those represented Judges, who ought to be free from bribes; and amongst these there was one also that wanted his eyes, which represented the chief Judge, because he ought to be free from all passions, and to look on the business, and to hear or to respect no mans person. It was not Pimpernel amongst pot-herbs (as the proverb is) but a Beetle ingra-ved in a Seal amongst the sacred Images. And what did those wise Theologians intimate to us thereby? no common thing indeed, but a valiant and invincible Captain. For *Plutarch* saith as much, that no man may suppose that I invented it; as your common Theologians use to invent Allegories. But some ignorant fellow may say, what hath a Beetle to be compared with a Commander in an Army? Truly they agree in many things. First you see the Beetle is all in armour, and there is no part of its body but is guarded with plates and harness, that *Mars* in *Homer* cannot be said to be better armed when he is in compleat armour, and fenced cap a pie. Add to this his warlike march with a horrid and terrible humming: what is there more unpleasant than the sounding of Trumpets? what more loath'd than the beating of Drums? for the sounding of Trumpets that Kings now so much delight in, the *Busrude* could not endure, because it seemed like to the braying of an Ass, and the Ass was held abominable amongst them. Add hereunto the wonderful patience of the Beetle in driving on its burden, its invincible courage and contempt of life. To this, men say there is no females amongst Beetles, but they are all males. What can better beseeem a valiant General than to have no female in his camp himself, nor allow others to have them? Moreover this is fit for the matter, that in those delicate bals we speak of, they exclude their young ones, foster, cherish, and bring them up, and they have no other place to breed in than they have to feed in. But this secret is not easie for me to open; Souldiers in war can better do it, who know how to lie in their armour, or on the bare ground, that in a siege have undergone hard winters, and harder hunger; that have sustained their sad life not with roots of herbs, but with filthy food, who have for some months lived in want at sea. If any man consider the beastliness of these mens conditions, the Beetle will be a cleanly creature; and consider but their misery, and you will think the Beetle happy: yet this is the lot and condition of Generals, that no man may despise it. But by the way, I wonder what ails our great men, that hold all their Nobility to lie in their Scutcheons, that they had rather have Libards, Lions, Dogs, Dragons, Wolves, or any other creature that they chance to meet withall, when as their proper symbole is the Beetle, both as the fittest, and was so used and approved from eldest times, which is the only parent of Nobility? As for the form of its body (let go only preposterous judgement and opinion) and there is no reason why the Beetle *Pilularius* should be despised, or can be; for if Philosophers say true, that a spherical figure is the most comely and the best, why then shall not the Beetle seem comely, which from the judgement of *Demiurgus* is nearer to it than an Eagle or a man himself? *Clem. Alexandri. l. 5. Stromat.* And though

the Beetle have a face like a Cat, a creature familiar with us, and more useful, than it is desired for its self, yet in that respect the *Egyptians* adore it, and prefer it before all other Insects by many degrees. *Calcaginnus*. Lastly, if a horse be beautiful in his kinde, and a dog in his, why should not the Beetle be so in its kinde? unless we measure the forms of all things by our own, that what is not like us must be held to be ugly. No man of a sound minde will finde fault with the colour of it, for it sets forth some jewels, and in special the Diamond that is the chiefest jewel. Lastly, no man will think the Beetle at all despicable, who shall consider with himself, that Magicians and Physicians fetch remedies from this creature for the greatest diseases; for they are not only carried in mens purses, but also hang'd about their necks, and oftentimes shut up in gold against all childrens diseases. What will you say if in the most effectual and incredible remedies almost, (for *Pliny* is the Author of it) it hath equal force with Antidotes? for that terrible Beetle engraven on an emerald, yeelds a present remedy against all witchcrafts, and no less effectual than that *Moly* which *Mercury* once gave *Ulysses*. Nor is it good only against these, but it is also very useful, if any one be about to go before the King upon any occasion: so so that such a ring ought especially to be worn by them that intend to beg of Noblemen some jolly preferment, or some rich Province. It keeps away likewise the head-ach, which truly is no small mischief, especially to great drinkers. Who then can despise the Beetle, whose very image engraven upon stones hath so great vertue? The mentioning of precious stones puts me in minde of adding this also: that if the Eagle delight in the precious stone of her name, the *Aetites*; the Beetle comes not behinde her in its share of the same honour, for the stone *Cantharidis* also owes its name to it, wonderfully resembling the whole figure of the creature, so that one would say it is not the shape represented, but a living and true beetle inclosed in the stone. Moreover this impure and filthy creature (forsooth) boyled with worms in oyl of Roses, doth very well cure the pains of the ears. *Plin. Avicen* prescribes the Beetles called *Pilularii* being stamped alone, to be boyled without worms, which the Author of the Book *ad Pisonem*, approves also, *chap. 12. Sylvaticus chap. 94.* writes thus out of *Avicen*: The *Dung-Scarabees* help the pains of the womb, they provoke urine and monethly termes, they procure Abortion; with *Cordumeni*: they are good to heal the Hemorrhoids, and they help that benumbedness which comes of venomes infused by living creatures; and the oyl in which they are bruised takes away the pains of the ears. The later writers commend these Beetles dried among the remedies for the Stone: especially *Alexand. Benedic. Lanfrancus* makes for the cure of the Stone this kinde of powder, which is no ordinary one: Burn the *Dung-beetle* or any other after the same manner as you do Grasshoppers, or Scorpions; Take of the ashes of them grains v. of Hippocras j. dram, of Pigeons dung j. dram and a half, let them be dried and a powder made of them. The Dose is j. dram with water of the decoction of Radish, Brambles, or black Chiches. For the Hemorrhoids this ointment is very much commended. Take of oymntment Populeon j. ounce, of oyl of Roses in which 20 Beetles and as many Chisleps have boyled a good while j. ounce and half, of Saffron gr. iij. let them incorporate and be made into an oymntment. *Arnoldus de villa nova Breviar. l. 1. c. 25.* reports that he had gotten of his master a singular oymntment against the Convulsion, made of Beetles after this manner: Take of Pepper, Euphorbium, Pellitory of Spain, each alike, of Beetles to the weight of all the rest; let them all, being brought to a powder and mixt together in a bath with juyce of Spear-wort as much as sufficeth, be macerated and made in the fashion of an oymntment, with which let the pulses of the armes, feet and temples, with the navel and back-bone, be anointed. Moreover, *l. 4. c. 11.* he prescribes for the awakening of such as are troubled with the Dead sleep, and with the Lethargy (when *Cantharides* and Cauteries have done no good) two or three *Dung-beetles* alive put up together under half a walnut-shell, to be made fast about the nape of the neck, being first well shaved, and upon the muscles of the forepart of the arms (on every muscle one) and under the sole of each foot one, because this doth wonderfully rouze up such as are in a Lethargy. And Mr. *John of Florence* (saith *Arnoldus*) awakened one that had been held with a Lethargy for seven dales, with this remedy, having tried all others in vain, and cured him afterward with *Cantharides* laid upon the nape of his neck to blister it. The *Dung-Beetles* are best for this purpose, they are next which use to be found under stones, and then they which are found in a bath. The *Solar Beetle* cures them who are sick of a *Quartan Ague*, saith *Ælian. Pliny* and *Trallianus* shew us the way of using it; which is, when it is hung about the neck alive, and wrapt up in a piece of red cloth, and this they testifie they have seen confirmed by many experiments. Yet the Magicians will scarce finde credit, when foolishly rather than truly, they report and imagine that the precious stone *Chelonitis*, that is adorned with golden spots, put into hot water with a Beetle, raiseth tempests. *Plin. l. 37. c. 10.* I say nothing of the Eagle, the Woodcock, the birds called *Laniis* by *Gesner*, in whose nests Beetles stuck upon thornes (which our *Bruerus* first observed) are an argument, that they serve for this use also, to feed Birds. Nay *Bellonius* affirms that many other living creatures, especially Frogs that are in Marsh grounds, feed upon them. And indeed though the Eagle, its proud and cruel enemy, do no less make havock of and devour this creature of so mean a rank, than our lordly Storks use to do the peasant Frogs: yet as soon as it gets an opportunity, it returneth like for like, and sufficiently punisheth that spoiler. For it flyeth up nimbly into her nest with its fellow souldiers the *Scara-beetles*, and in the absence of the old she Eagle bringeth out of the nest the Eagles eggs one after another, till there be none left: which fat-

ling

ling, and being broken, the young ones while they are yet unshapen, being dash't miserably against the stones, are deprived of life, before they have any sense of it. Neither do I see indeed how she should more torment the Eagle than in her young ones. For some who slight the greatest torments of their own body, cannot endure the least torments of their sons. We see Asses, (those sluggish and almost senseless creatures) run to the help of their foals through fire, if it be in their way, with a strange contempt of their life. So that I cannot but admire and magnifie the Beetles inbred wisdom in the choice of its revenge. But enough of this, lest I should seem to have made (not an Elephant of a fly, but) a Gyant of a Beetle. I will confess indeed, that as I was loath to make a great volume about a small thing, so I accounted it a sin to bury in silence what I had read. I wonder at *Pennius's* brevity and emptiness in this argument, since in *Lucian, Pliny, Homer, Aristophanes, Theocritus, Alexandrinus, Erasmus*, and infinite other Authors, wonderful things are recorded of the Dung-Beetle, well worth our mentioning;

There is another altogether like the Dung-Beetle, but of a darkish bright blew colour, with a notable shining. This in the moneth *August* is troubled with lice hanging between its legs, and at last kill'd with them. I should rather take this for the cat-fashion'd Beetle, because an egge is not more like to an egge, than this is to a cat. It is met with every where, but I have more often seen it about *Colchester*. Let us go forward.

That which I should call the Emerald coloured or greenish Beetle; the Greek comick Poets all of them call *μυρολόγῳ*, the *Atticks* *μυρολόγῳ* and *χρυσάλῳ*. *Eustath.* Some likewise call it *χρυσόμυρολόγῳ* and *χρυσόμυρολόγῳ*, but without right. It is taken by some for the Tree-Beetle, but its place tells us it is a mistake. The *Rusticks* in Lombardy call them *Gallerucas*, as much as to say, French *Palmerworms* (as *Niphus* interprets it) though yet they agree in nothing with *Palmerworms*. In

Dutch it is called *Gruenen, Odon, Goudkasper*; in Italian, *Mariola*; in Polonian, *Zielonakrorka*; in English, *Greenchaser*. The opinions of writers are divers about this little creature; both because this kinde of Beetle is not every where easie to be found, as because it seemeth to be very near the *Cantharis*. Some will have it to be the *Cantharis*, but for the most part there is wanting in it that cautlick virtue. The Scholiast upon *Aristophanes* calleth it *ζωίδιον χρυσεόν κενόδαν*, a little creature of the colour of gold like a Beetle. *Eustathius* calls it a great Wasp, *Pollux* affirms it to be a little creature which flies, but sets not down its kinde. *Gaza* translates it *Galleruca*, but it hath nothing like it; and they who contend that it is a Tree-Beetle, have either lost their eyes, or cannot distinguish varieties of colours. *Hesychius* makes it a Beetle, but of a golden colour: as the Scholiast upon *Aristophanes*, yellow; later writers call it the greenish or Emerald coloured Beetle, but shining as it were with gold. *Marcellus Empiricus* intimates as much in these words: the green Scarabee (the Greeks call it *μυρολόγῳ*) is of a lively emerald colour, by reason of the pleasantness whereof, it is so delightfome and beneficial to the eyes, that they can never be weary of it; for the longer you look upon it, the more you would be in

love with it. *Pliny* also saith the same, l. 30. c. 70. & 29. c. 9. The male is green all over, except the eyes which are ruddy: the sheaths of the females wings (which is the bigger) seem to be of a chefnut colour, shining with a delightfome and beautiful brightness; otherwise it is like the male. The breast of them both stands out with a sharp point, which I have not observed in other Beetles. *P. Quicquelberg* an Apothecary of *Antwerp*, but one who was to be preferred before many Physicians for his studiousness about things natural, sent to *Pennius* a male and female of them, painted as it were with *Apollo's* hand. *Aristot.* l. 9. de *Respiratione*, ascribes to it a shrill sound, which perhaps gave occasion to some to call this the Tree-Beetle. They are generated (saith the Philosopher) *ἐκ τῶν σκωληκῶν ἢ ἐκ τῶν βοτάνων, ἢ ἐκ τοῦ ὀρίσου*, that is, of worms which are in corn-dungs, and of asse-dung. But *Stephanus* out of *Theophrastus* saith otherwise, *γινέται ἢ ἐκ τοῦ ὀρίσου ἢ ἐκ τῶν ἀνθίστων ἢ ἐκ τῶν ἀρχαίων ἀνθῶν περὶ πλάτων, &c.* The *Melolonthe* is bred of the blossoms of *Apple-trees*, or at least it flies to them when they begin to blossome. We are beholding to *Charles Clusius* for another kinde of this Beetle, whose feet are black, as likewise its head and shoulders, but from blewish. It hath horns in appearance, but not so indeed (wherefore we reckon it amongst the *antennae*, or hornless Beetle) its sheath wings seem to be furrowed: but about the edge they are some-

what red. *Thilesius* tells us of another notable kinde of *Melolonthe* (and I have here represented to you the figure of it) in these words: it is green all over, except the eyes (for those are exceeding black); its belly from golden is a little red, and so its thighs; the middle of its

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back





back is beautified with a half Moon of the same colour with its sheath wings; for which reason it is elegantly called by the Latines, *Equus Lune*, the Moons Horse. *Thilefus* writes that *Aristotle* makes mention of this, but I cannot yet finde where the Philosopher does it. *Thilefus* while he speaks of this among the Dung-Beetles (for which reason also I have added it to them) describeth it thus in verse:

*Which, rolling balls of dung this poster frames,
Some black, like the scorcht Moor are seen;
The nobler sort are deckt with green:
Whose back bath (to compare great things with small)
A mark, you may the half Moon call.
The English call't the Moons horse, so renown'd,
But had there e're so fair been found,
Many a Semiramis would love us then,
And Centaures had out numbred men.*

And indeed most of the Beetles are hideously black; yet I make no question, but some of them have their case shining with a blacker, others with a more pleasant green. There are also that shine like gold, and those very great ones, which dig up the earth, and make their nests there. Some there are which fly about with a little humming; some with a terrible & with a formidable noise, so that they would not a little fright one that is not aware of them. There are other differences also of shapes amongst them: but their breeding in dung, their feeding, life, and delight in the same, this is common to them all. Another Beetle of a purple colour was brought to us from *Constantinople*, which (only that its eyes, belly, and feet were like pitch) was all over of a purple and violet colour. The black one, which lives in dry wood, is formed after this manner: It is all over black, or russet rather, as if it were clad in mourning; its mouth is forked, its shoulders almost square, its legs and horns somewhat short; it seldome flies, but goes for the most part, and murmurs while it is going, as lewd servants use to do. The Tree-Beetle is very common, and every where to be met with, especially in the moneths of *July* and *August*, after Sun-set: for then it flyeth giddily in mens faces with a great humming and loud noise, and vexeth cartel. These Beetles spoil the leaves of trees, which they do not so much eat as tear in pieces out of an inbred malice; for they feed upon gnats. We call them *Dorrs* in English; the Dutchmen, *Baumkafer*, *Loubkafer*; *Jo. Agricola l. de subterr. Anim. Senkafer*; the French, *Hannetons*. The sheaths of their wings are of a light red colour, and covered as it were with a very fine flower, otherwise they shine but a little; their legs, feet, and prickly tail are of the same colour: its other parts are all over brown: only that the circle about their eyes, and their little horns are yellowish, and of the same colour are they a little above the beginning of their tail, the joynts of their bellies are whitish. In *Normandy* they are much more numerous every third year, and therefore they call it *L'an des hannetons*. It is recorded in our Chronicles, that in the year of our Lord 1574. on the 24. of *February* there fell such a multitude of them into the River *Severn*, that they stopt and clog'd the wheels of the Water-mills: and indeed, unless together with the industry of men, the Hens, Ducks, Goat-milkers, Castrels, Bats, and other Birds of prey (which seem to make these their dainties) had afforded their help, the Mills had even to this day been choaked with them and stood still.

There is another taken to be of kin to this, of a colour all over between brown white, its belly gray and as it were hoary. Of what use it is in Physick I confesse I know not. Fowlers indeed when they hunt for Ducks, bait their hook with two or three *Dors* or tree Beetles, and tye a heavey stone to their line, which they cover with flags, that their wiles be not discovered: the Duck for greediness of meat presently swallowes the hook, which sticking fast she is punished for her folly. How Cranes are taken with these wrapped up in a gourd, he that hath a mind to know may read *Gesner de Grue*.

The Beetle which *Pliny* calls *Fullo* is more rare, and not every where to be met with. It is not any where to be seen here in *England*, so far as I have heard or read.

read. *Gaza* sometimes translated that which *Aristotle* calls *αὐθαγὸς*, *Fullo*, whereas he alwaies intended that the Dung-Beetle only should be known by that name, and he gave proper appellations to all the rest. Neither can the Fuller-Beetle be called the red Beetle (as *Freigius* construe) nor is it a creature with a forked tail, which *Hadrian Junius* puts upon us for that *Fullo*: for the forked tail is



not of the sheath-wing'd kinde, as it shall appear more at large in the history thereof. This Beetle certainly is a fair one, bigger than the Tree-Beetle, but somewhat less than the female flying Hart: It hath a head almost horny, beautified with two little horns; its eyes and hairy breast are of a yellowish white, it hath feet coal-black; its belly and tail are like to Cranes feathers; its shoulders and wings are so beautifully wrought with black and white specks, that you would easily swear it were a cloathing of Damask embroidered after the Phrygian manner. Magicians say, that this Insect is a singular remedy against Quartan Agues, being bound to each arm, if we may believe *Pliny* l. 30. c. 11. *Pennius* first had the picture of it from *Carolus Clusius*; but *Quickensbergius* afterward sent him over the creature it self.

CHAP. XXII.

Of the lesser Beetles.

ALL the lesser Beetles are either spotted in their body, or unspotted: the Greeks call those *αὐθαγὸς*, divers coloured; and these *μοναγὸς*, of one colour. The spots of some of them are of a black colour inclining to white, others of them are yellow, others red. Of those that are white from black there are seven kinds, of the yellow ones thirteen, of the red ones twelve; which we have here ranked every one in its severall order.

Those that are unspotted, are observed to be all over of the same colour: and of them we have seen six blackish ones, two of a bright bay, one round, one of a skie colour inclining to black, another between yellow and black. And one was very lately observed by us painted with a light red, another seem'd drencht in the juyce of the purple fish. We have five which are as yellow as gold, very little ones indeed, but coloured



coloured all over with glittering gold, which, lest we should seem to have envied our posterity (the knowledge of) we have caused to be cut and described here. But for what use every one of them serveth, was declared when we spake in general of Beetles.



CHAP. XXIII.

Of the Oyl-Beetle, and the Water-Beetle.

IT is called *Proscarabeus* in Latine; in *Paracelsus*, *Moloe*; *Agricola*, *Pinguiculus*, from the fat sweat like honey which plentifully drops from it. The Greeks call it *αἰλαιόβατος* and *ἐλαιόβατος*; it is called by the Germans from the moneth which it is seen in for the most part, *Mayen Wurmlein*, and *Meyen Kafer*. Those of *Heidelberg* have put upon it the name of *Schmalts voghel*; those of *Dithmaria*, the names of *Ever* and *Kadden*, (*Wierus* testifies in his *Book de Morb. incogn.*) in English it may firly be called the *Oyl-beetle*, or the *Oyl-clock*. But why it is



rather called *Proscarabeus* than *Scarabeus*, contrary to the intention of *Gesner* and *Pennius*, I could alledge many reasons, but this especially, that they are distinguished in sex, and that they couple together. You see here the bigness of the female, and you perceive that it is bigger than the male, and for the most part of a diverse shape; for its mouth is not at all forked as the females is; this also upon the lightest motion or touch, runs with an oyl, (like liquid honey) the male is alwaies observed to be as it were dry. They couple, as we have often seen it in *Heidelberg* fields, tail to tail; the female in the act drawing to it the male (after the fashion of dogs) so that it is forced to creep backwards; they have both tender bodies, betwixt black and dark blew shining: upon whose shoulders there grow two wings, or rather beginnings of wings, as upon the *Estrich*, to help the swiftness not so much of its flying, as of its going; those circles that compass the belly and the back, appear green in the young ones, in those that are more grown, blew rather. If they be bruised, they yeeld a most pleasant smell, as *Taxites* affirms in his *Onomasticon*. it feeds especially upon violet leaves, else upon the leaves of tender young grafs. They are seldom seen but in the moneth of *May*; all the rest of the year they keep their holes, or having first wrapped up their seed in round bals of dung, they die. At *Heidelberg* and *Francford* we have seen many of them in the fields, in the pasture grounds, among the corn, and even in the very gardens and streets. But I have

found none yet in *England* alive and bred there. Only *Agricola* hath made them four-footed, whereas indeed they are all six footed, upon the mistake perhaps, or chance of having met with an Oyl-beetle, which had had two of its feet pull'd off. *Wierus's* Oyl-beetle, if you see it lie upon its back, seems (unless this old man makes sport only) to be made after the figure of a mans face. It hath gotten longer wings than the rest, and is marked with more rings or girdles going round its body: otherwise it differs not from that spoken of before. The most noble Knight

Sir Edmund Knivet affirmeth that he saw in England the former kinde of this Oyl-beetle, and sent us the picture of it; but could never finde that oily humour which the German one is full of. It comes short of this likewise in all its dimensions, either because it hath a climate, or because it hath a soyl less fit for growth. John Wierus writes thus of the use they serve for. In Dithmaria towards the south they hang the May-worm (for so he calls the Oyl-beetle) about the neck with a thred, especially in the moneth of May, when that moisture like hony (which is taken to be venomous) drops from it most plentifully: this Beetle (or sometimes two or three) being dried and beaten into powder they give with beer, puts the sick person into a sudden and great sweat either with labour, or with many coverlets upon the bed, or in a stove or oven after the bread is drawn. The eupon follow grievous symptomes, as a pain of the heart, an overthrow of all strength, a weakness of the whole body, which for the most part last no longer than half a day: this they repeat every other day, or every third day (as the case requireth) un-



till the ninth. This drink they call *Anticantharinum* or *Kaddentrunk*, because it is made of Oyl-beetles. And truly for that epidemical head-ach (which Placentius at the end of his Chirurgery, and *Berptalia cap. de Vapore*, and perhaps *Avicen. 4. l. 3. Fen. Tr. 2. c. 9.* do define) it is said to be an excellent remedy. The Saxons call this disease *Fiuren*, or *Kadden*. Paracelsus *l. 3. c. 6. de morb. Tartar.* recordeth that he cured a Dropsie by a medicine compounded of those Meloes and Radish seed: the making of it is after this manner: Take of Beetles called Meloes ten drams, Radish seed one ounce, make a liquor of it: the Dose may be from one ounce to three ounces, if necessity require. He used also *Oppodelton Meloum* against hand worms, *lib. de vit. longa c. 12.* which after other medicines he prescribed to be applied for the space of twelve hours. If they be taken before the rising of the Sun, and distilled (saies *Agricola*) they are very good for swellings under the eyes, if the places affected be washed every day three or four times.

That oily fatness also healeth the chaps of the hands, as we have heard of the Countreymen about *Heidelberg*, who have more than once commended their wonderful vertues to us. They do strongly expell urine, but withal, bloud. They close up veins, and nerves, and wounds; they thoroughly cure horses galls and bruises in the back which come by the badness of saddles.

Gasparus Reglerus l. de Peste, adviseth to gather up twenty Oyl-beetles, yet not with your hands, but with two little twigs: then being put into an earthen pot or glass, let them be smothered in as much of the sweetest Oyl-Olive as will suffice, and kept for use. He affirms that by being anointed with this Oyl Sores in the Groyn, Carbuncles, Pestilential Sores, Boyles, and wounds made by a mad Dog are cured. In another place he prescribes, that we should draw a circle about the sore with a Saphir stone, and then anoint the place with the oyl of Meloes, or of Juniper, as being that wherewith the venome is wonderfully drawn out, and the part affected presently reduced to its natural temper. *Marcellus Empiricus* mentioneth a certain hairy Beetle of the colour of a Lion, and like one indeed in all things else but his roughness. He contends that it is called by its proper name *Culio*; it is found in old hedges, and unregarded ditches and banks: this he writes is wonderful good for scabby eyes, and eye-lids which have been long fretted with a salt and sharp humour, or eaten away with lice. Thus he sheweth the way of using it: first gather betimes in the morning a colewort leaf wet with the dew of the night, and wrap it up so that all the dew run together to the bottome of the leaf, then having taken up his hairy Beetle with your fore-fingers and thumb, put it up instantly within the leaf, that its urine (which it presently makes upon its being bruised) may be mingled with the dew of it; for otherwise its piss, in which all the secret lieth will be lost.

If with a probe you shall search the eye-lids, and anoint the places, which are scabby and eaten away, with its dew when it is now impregnated as it were with the piss of this Beetle, you will confesse its strange and wonderful vertues. But what kinde or what manner of Beetle this is, I am altogether ignorant, nor can I call to minde any other Authors who have made any mention of it.

The Water-locks do now challenge to have some room allowed them, which the Greeks call *υδροδοκεις*; the Germans, *Wasser-kafer*; the English, *Water-clocks*. All these have their bellies coloured with a light red, and their backs coal-black, except that in England, in whose picture if you darken over all that border which compasseth about its shoulders and its whole oval body, and make its eyes of a silver colour, you cannot desire more toward its description. They have every one six feet, the hinder feet exceeding the others in length and bigness, which they use as it were for oars when they swim; under their sheathy wings which are very black,

lye hid their membranous wings of a silver hew, with which by night, having left the water, they nimbly fly through the air, which by day they very seldom (or never) use. But the least of all are those, which with a restless motion run about in a multitude this way and that way upon the surface of the water without order, and play as it were together, and when the water is troubled, either they dive down to the bottome, or hide themselves in holes of the banks: but afterward, as soon as the waves are still and calm, they leap about it again for joy. *Christophorus Lenssternus* writeth to *Gesner* that he found a Beetle in a certain place, with a sheathy crust (as they use to have) which had a head like an Ant somewhat yellow, and many wings, on the hinder part of the belly it had fins, such as are upon Crabs tayls, which they used as they wanded up and down (like rowers upon the water) it had a little tail sticking out for its defence, but which was parted into very long hairs, being thrown out of pond water into fountain water, it died within a few daies. And thus much of Beetles: which, of countreys only *Olynthus*, of plants only the wilde Lilly, produce not: whereupon that is called by *Pliny*, *Theopompus*, and *Antigonus*, *Cantharolethros*: this by *Dioscorides*, *Anticantharos*.

CHAP. XXIV.

Of the Fen-Kricket, the Eve-churre, or the Chur-worm.

GIVE me leave here where names are wanting to make some. The creature which we have described is that which *Cordus* calleth *Spondylis*; & *Dodonæus*, *Buprestis*, both of them amiss & without reason. For the *Spondylis* hath no wings, you see this Insect is winged. The *Buprestis* is said by all to be like the *Cantharis*; but this creature neither in figure, nor colour, nor bigness cometh any thing near it; to say nothing of its having no sheathy wings, which all wise men will grant the *Cantharides* have. [If we may make names, we may call it *Gryllotalpa*; a *Mole-kricket*;] a *Kricket* because it makes the same shrill



noyle which a *Kricket* doth towards night; a *Mole*, because it digs the earth continually; the Netherlands call it *Weemol*. It is an Insect ugly to sight and monstrous, four times bigger than the biggest of the *Cantharides*: especially when it is pretty well grown. The shape you see before you: I will tell you the colours. The female is paler, the male of a deep brown; that hath besides 2 long horns, 4 knobs hanging out as it were of its nostrils and lips; it hath also bigger eyes, and the root of its wings is bedecked with a red spot. But the male is without those buttons, and in stead of them hath two bristles twice as long as those buttons; it seemeth to be of the same colour all over, and without any spot; both their claws are as black as a Raven; with their fore-feet which are very strong and bending inward they both dig through hillocks, and make holes under ground; they stand upon their middle feet, and with their hinder feet, when need is, they leap; their tail is forked, their wings longer than their body, and membranous, their body variously jointed. The young ones for the most part are all over black, the old ones seem to be without hair: it liveth the greatest part of its age under a moorish and moist ground, yet in the night it cometh abroad. It is a very slow-paced creature, and its flying is like leaping; whereupon it is reckoned by some among *Locusts*. It begins to come forth as *Krickets* do when the Sun is going down, and pleateth it self with its singing, which is lowd enough and may be heard above a mile off; which as soon as the husbandmen hear, they are glad presently: as though they knew by its coming, that the earth now teemed with moysture, and were brought as it were to maturity by the heat of the Sun. It gathereth together grains of wheat, barley, and oats, and carrieth them into its nest, being to live upon them perhaps in the winter. Some affirm that it feeds upon Horse-dung. *Dodonæus* relates that this little creature kills cattel with its biting; falling into this mistake, because he took it to be the *Buprestis*. Whether it do any hurt being taken inwards I know not: but *Pennius* hath often handled it in his bare hands, and without harm, never observing in it any inclination to bite. Our *Bravernus* signified as much to *Pennius*, who hired Countrey-men with his money to observe as often as might be its condition, and to make relation of it.

CHAP.

CHAP. XXV.

Of the Fire-fly.

That which is called by *Ælian* *πυρρὸς*, other Greeks call *πυρρῆ*, *Hermolaus* *πυρρῆς*, some The
πυρρὸς. *Aristot.* l. 5. *Hist.* c. 19. giveth these little creatures no proper name, but sayes they are
δνεία, τὰ ἐν τῷ πυρὶ: which *Gaza* tranſlateth *Bestiales fornacum*, Furnace creatures. *Strabo* reckons them
among Gnats, they are called *πυρρῆα*, by *Suidas*, and by the *Scepticks*, as we read in *Laertius* l. 9.
Solinus calleth it *Caryſtia* l. de mund. Mirab. *Jul. Scaliger*, *Ignigena*; *Gaza*, *Furnaria*, and *Bestiola*
Fornacum, out of *Aristotle*, which he maketh bigger than the greater flies and winged: *Pliny* af-
firmeth the same l. 11. c. 36. *Antigonus* l. 10. *πυρρῆς*, ſaith from *Aristotle* that theſe Fire-flies
are bigger than Mice (not Flies only); where it is evident he ſouly miſtook *μῶν* for *μυῖων*, Mice
for Flies; which *Xylander* his Tranſlator took no notice of. In ſhape it is ſomewhat like a very
big Gnat, of a bright fire-red colour, glittering with a kinde of fiery raies; it leaps, goes, flies,
and lives in the flame, as *Aristotle* reporteth, l. 5. *hiſt.* c. 19. For I can ſcarce give credit to
Ælian l. 2. *Hiſt.* c. 2. when he ſaith that the Fire-fly as ſoon as it hath gone out of the place
where it was bred, and flown into the air for food, dieth preſently: for I cannot believe that
any thing bred in the fire, goeth out of its element to ſeek for food; nor is it likely that Nature,
that moſt loving parent of all things, ſhould preſcribe any creature ſuch a way of getting its food,
by which it ſhould preſently loſe its life. Neither is it, as it ſeems to me, ſo hard to finde out
the reaſon of this their ſudden dying in the air (which *Ælian* leaves to be ſearched out by
others) for being bred in the extremity of heat, how ſhould they live in a temperate place?
For it is evident by daily experience, that ſome Fiſhes dye as ſoon as ever they are taken up out
of the water into the air; much leſs can thoſe creatures that are bred in the fire, endure the air,
ſince it differeth ſo much from the air, and indeed more than the air from the water.

Theſe Flies are bred in the Braſs Furnaces of the Iſle *Cyprus*, where the *Chalcitis* (or Braſs-
ſtone) is burnt for many daies together: perhaps the ſooty vapours which go up with the flame,
while the ſtone is continually burnt, are the matter and cauſe of their generation. *Strabo* ſpeaking
in his 12 Book of *Wornis* bred in the ſnow, addeth this which followeth: *Τὴν δὲ γένεσιν οὗ δαίμονος*
ποιῶν τὴν εἰς τὴν, διατὶ τὸ πῦρ καὶ τὸν ἀέρα ἐν τῇ ἐν τοῖς μεταλλοῖς φλόγῃ καὶ τῇ πετάλῃ: They con-
jecture that the generation of theſe creatures is like that of Gnats, of the flame from metals and
plates of braſs; where any man may ſee the error of the Interpreter, for he renders it thus:
Horum animalium generationem talem putant, ut culicum ex flammâ & bractea metallorum. For
they are bred in the flame (as *Scaliger* ſaith) not in *maſſa*, that is (as I interpret it) in the fire
which is condensed together: nor doth any thing forbid but that the moſt dry animals may be
generated in the moſt dry element (for there is mixtion there alſo) as the moiſteſt are in the
moiſteſt; for we have no pure fire with us. But what hinders but that living creatures may be
generated of matter ready for them, or what natural reaſon contradiceth it? They answer, that
fire deſtroyeth all things, corrupteth all things. But they which have had but any taſte of the ſe-
crets of Philoſophy, do evince that to be falſe by clear demonſtration and experience. For ſo
far is our fire from deſtroying or corrupting all things, that it even perfecteth ſome. It
doth not corrupt nor conſume gold, nor ſome ſorts of met ls, not aſhes, not the ſtone *Amiantus*
which is very like *Sicil Allum*; nor ſome other things which I will not now ſtand to reckon up
for thoſe froward mens ſakes. What then ſhould hinder fire from having the power of generating,
ſo it be in a fit and convenient matter? its very diſineſs cannot hinder the generation from coming
to effect; becauſe it proceedeth from the form; but fire is the matter and the forms inſtrument for
ſome operations. Beſides, our fire hath alwaies ſome moiſture joyned with it; for it would not
take flame nor burn, if it were not cheriſhed with a ſat moiſture; for certainly thoſe things are nei-
ther without earth nor water, which are generated in our terreſtrial fire. *G. Agricola*. But if this
were not ſo, becauſe fire prefers not; yet there is no reaſon we ſhould doubt but that generation
may be effected by the fire, as by the form in its proper mat-*ter*. For unleſs there were moiſture in
metals, they would not melt; what therefore ſhould hinder nature, but that it may give this a
form? *Aristotle* maketh the queſtion, Whether in the ſphere of the fire (which is next to the
Moon) there be generated any living creatures? and he ſeemeth to be in doubt, and putteth off
the queſtion until another time; but when he affirmeth that the Fire-fly is generated in this fire
of ours, I ſee no reaſon, why any ſhould doubt of it: yet there are ſome very learned men, and
eminent writers of our time (who ſeem nevertheleſs to excel rather in wit, reading and language,
than in the ſolid knowledge of things natural) who condemn and reject not only the generation
of theſe little creatures in the fire, but this whole hiſtory as frivolous, falſe, and unworthy of a
Philoſopher. My readers expect now, that I anſwere theſe mens arguments.

They object that *Aristotle* doth in plain terms affirm, that the fire produceth no living crea-
ture. The Philoſopher doth there compare the heat of ſeed with the heat of fire, affirming that
there is not a fiery heat in ſeed; for (ſaith he) if there were, it would produce nothing. But this
hinders not, but that a living creature may be generated in the fire without ſeed: but of ſome
other fit and convenient matter, as we ſhall ſee anon. Beſides, the Philoſopher ſeems here (as

like-

likewise elsewhere) to speak of that fire only which is under the sphere of the Moon, that that produceth no living creature; not of ours, where there is both mixture, and no pure fire. But they yet urge: Our fire is *Substantia λεπτομερής*, a substance of most subtil parts, and seizeth upon all things that are in its way, devouring them and turning them into its own substance. This was answered before when we instanced in some things which are rather perfected in the fire, and which fire is by no means able to consume or turn into its substance. *Jo. Langius* (a man of much reading, and a most learned Philosopher) and from him *Cardane* grants that some Animals may live in the fire, but not that they can be bred there; for in this they yeeld to the Philosopher. But who seeth not how absurd this yeelding is? for I cannot see how things generated in a temperate place, should be able to live in that extreme. For that which they say of the Salamander, is as good as nothing. The Salamander (as *Diosc.* hath observed) doth not live long in the fire: for as soon as that moisture, which runneth down on every side from its yellow spots (as I conceive) while it staies in the fire, is consumed (which is quickly done) it is presently brought to ashes, as *Pennius* hath made trial with our *Brueus* in the Countrey about *Heidelberg*. *Erastus* a most learned Physician, disputing about rotten Feavers, endeavoureth to overthrow all this History with these arguments. First, because *Aristotle* compileth the History (saith *Erastus*) who, it is confessed, writ many things from hearsay; I grant it: but then he adds, *ut aiunt*, as it is reported, or some other word of the same importance (as *Niphus* hath well observed) even as in that very place, speaking of the Salamander, he addeth, *ὡς φασιν*. We may observe that this is the constant practise of the Philosopher, when he speaks according to the opinion, or from the relation of others; but grant it were so, that he from others related it; they were deceived (saith *Erastus*) who related it to him; imagining those creatures bred in the fire, which fell by chance into it. But the circumstances of the place make it appear that this is false. If they had fallen from elsewhere into the fire, surely by his own confession they would be consumed by the fire. And unless they had been bred there, (as I said before) how should they be able to live in such an extremity of flame? Besides, spectators have observed the motion of their feet, the number of their wings, their flying, yea their death, and the cause of their death, *viz.* their flying somewhat too far out of the fire. These things and the like evince that those relators were not at all deceived, but that they related what was true and unquestionable. But no Author either before or since *Aristotle* affirms this, but one or other perhaps who hath transcribed it from him. This is more (*Erastus*) than you know, you have not read all Authors Books: the greatest part of books is lost, as it appeareth plainly out of *Athenaus*, and Histories bear witness. But how I pray you, came *Pliny* to be assured that Fire-flies have four feet? He did not learn this from *Aristotle*, nor is there any such thing to be found in his writings which are extant. Wherefore either he learnt it from others, or else the History was known in *Pliny's* time. *Pliny* therefore added this, that he might make up the History compleat. Nay, if you had read *Cicero l. de Nat. Deo.* you had found him affirming for certain, that there are little winged creatures bred in the middle of the fire. Neither did I before think you so ignorant in Theology, as not to know what *S. Augustine (l. de Civit. Dei 21. c. 2.)* hath observed of these *Pyribia*: There are, saith he, creatures which live in the midst of the fire; and there are found some worms at the Spring-head of hot waters, whose heat no man toucheth without harm: while these remain there not only without receiving any hurt, but are not able to subsist out of them. And *Vincentius hist. Nat. l. 20. c. 68.* In some waters which are naturally hot, there are certain Worms which live as well as Fishes in cold: nay if they go out of those waters into cold they die. *Solinus* also confirmeth it c. 17. who calleth these kinde of Flies *Carystia*, and reporteth that in *Crete* they fly into hot furnaces without harm. Yea and *Seneca (quest. natural. l. 2.)* affirmeth that some living creatures are generated of the fire; and therefore these Fire-flies likewise; as lately *Marsilius Cognatus* teacheth us in a large Discourse, *Variar. observ. l. 1. c. 23, 24.* Do not then any longer contend, that no Author either before or since *Aristotle* affirmeth it; since besides these pious and grave men already named, I can bring others also, who would convince you either of plain falshood, or of a levity not hard to be discerned. But *Theophrastus* maketh no mention of it in his Book *de Igne*. What do you conclude, *Erastus*, from thence, that the History is false? Very fine. Perhaps he beleev'd it not; is it therefore false? But it is probable. I grant it. There are many things probable, and yet false, as experience teacheth us. *Erastus* wrote many things against *Paracelsus* which are probable, yet not all true, unless those things which he understood not, be true. Certainly he endeavoured to confute many things, which I know he never understood: I will not now descend to particulars. Well, but the heat of fire is not *πῦρ*, fit for generation. This, *Erastus*, you apprehend not; but I told you before, that if it were in the feed, it were not, which was the Philosophers meaning. For it is *φθαρτικόν*, *corruptive*, according to *Aristotle*: But I answered before, that fire doth not corrupt all things. This barrenness therefore, or (if you please) destructiveness of the fire is to be limited. Nor truly do I conceive this to be done miraculously, but by the power of Nature; neither do I take it for a tale, but for a History agreeable to nature. And as for what he writeth of the Salamander, he adds *ὡς φασιν*, as I said before: there was no need to add it. But I beseech those who believe nothing but what they see, to tell me, Have any one of the ancients found fault with this History, or confuted it? I speak of the Greek writers. No, not so much as *Galens*, who otherwise is a most sharp reprehender of the Philosophers, and would have laid hold on this instantly, if he had had any

any such opinion. Therefore it is likely that the history is true, because none of the old writers found fault with it. But come we now to *Matthiolus*, who of all men hath contradicted this History most unhappily; for in his margent he inveigheth against the vain opinions of the Philosopher (as he thinks) where he appears in some things vainer than vanity it self. But I will return to the business. It is against (saith he) the work of nature. Is it enough for *Matthiolus* to say so, though he prove nothing? If the story had been true, *Galen* would never have omitted it, who hath searched out all things else so diligently, furnaces, and metals, and what not? *Julius Scaliger* will make answer, to what end should he repeat a thing known before? Sooner would he (as he was a famous and a malicious detractor) if he had not found it so, have reprehended it, as he doth in some places make it ridiculous. He which continued so few daies, did not understand the whole matter; they were not, they are not alwaies at hand; he never enquired of the Bakers. But if I should say that a little she colt newly foaled should have plenty of milk in its udder, and that it did issue forth in great quantity, what would they say then? yet nevertheless I saw it at *London* about six years since, as also many others of good note and credit, who with their own hands did milk it out of its teats. They will say perhaps, we do not believe it; let then chuse, it makes not much to the matter; there are many productions of nature, the causes whereof it is impossible for any man to know, much less to shew to others. And that certainly not without great reason, that we might both admire the infinite power of God, and acknowledge our own blindness and ignorance. For these and the like did God create only for his glory, that he might both confound the shallow understandings of men, and also learn them to acquiesce in his wisdom only, for so much as in searching out the natural causes of things, it is impossible to go any farther. For this is amongst the works of God that may pluck down our ambition, and makes us with all our wit to fly to that common Anchor of fools, namely hidden causes and the whole substance. What have we then to do? surely only to apply ourselves unto him, from whom all wisdom, knowledge, and perfection doth proceed: for whilest we rely on our own wits, and do pry into the Majesty of God, we must needs (as *Solomon* in his Proverbs speaketh) be confounded by the same. What then remains? this surely, that they which think these things to be impossible, do keep their opinion to themselves, without meddling with those that think the contrary.

The Author of the *Geoponicks* (if I am not deceived) calls this little animal a Salamander: his words are these: *Σαλαμάνδρα τὸ ἐν πυρὶ ζῶον ἐν τῷ πυρὶ ἔχει μέσσην, &c.* that is to say, *The Salamander that little creature is begotten in the fire; and living in the fire, is not consumed by it.* Here he tells three untruths together. For neither is this the least of creatures, but oftentimes bigger, sometime less, neither is it generated by the fire, nor doth it live long in the fire, as I said before, out of *Dioscorides*. Thus much I thought good to add, lest young students reading those *Geoponicks* should erre so foully with *Zoroastes*. For what purposes it serveth, I cannot boldly say: yet by its place of growth and principles it seemeth to dry and cleanse powerfully. It is also of very thin parts and body; it pierceth to places very distant: and truly if the Grasshopper which feedeth upon air, be of so burning a faculty; what shall we think of the Fire-fly, which eateth and drinketh flames? But the Fire-flies are of this use to our mindes: they represent to our understanding the wonderful power of God, who hath made the greatest of all the Elements, Fire, subject to so small, so dry a creature: vouchsafing to be vanquished by these while it scorneth, I do not say to be vanquished (to use *Majolus's* words, *Dier. Camic. Colloq. 5.*) but even so much as to be touched by men, or the greater Animals.

CHAP. XXVI.

Of the Water-Spider.

THE Water-Spider is next, a little creature of exceeding nimbleness, whose History Authors have so slightly handled, that we can hardly pick out any thing of weight or moment towards the illustration of this History: we shall yet perform what we can.

I utterly deny *Arges* in *Aristotle*, to be the same with *Tipula* in *Plautus* (as *Gaza* interprets it) for I am not periwaded that Mule-gnats can come of them.

It is called in Latine *Tipula*: *Plautus*, *Festus*, and *Nonius Marcellus* write it *Tipul*; others, The Name, *Tipulla*; *Guillerinus de Conchis* reads *Tapula*; *Albertus* and *Vincentius* in his *Speculum*, call it *Tappula*: none of them aright. By *Plautus* it is called *Tipula*; in Greek (as I found in *Gesner's* papers) *πῖβλαν*, which word truly I finde not any where any footsteps of, nor can I tell what it properly signifies; some High-Dutch call it *Wasser-gems*, which is to say, a Water-goat; others *Wasser-spin*, which is a Water-spider; the Nether-lands, *Wasser-spinne*; with us it is called the *water-spider*, as with the High-Dutch and Netherlands, for likeness sake; in Spanish, *Gusano que corre sopra el agua*, a worm that runs upon the water; in Italian, *Capra di acqua*; in Polonian, *Wood ny cieluck*.

There are two sorts of Water-spiders, the greater and the less. They differ in bigness only, or perhaps in age: the greater are more common in coldest waters, the less are somewhat more blackish and of a more compact body.

Sfff

The

The greater more inclines to an ash-colour, being of a larger body.

Although severall men write severally, and neither tell any certain marks whereby it may be known, nor agree in the number of its feet, yet I hope we shall so clearly and perspicuously explain the History of the Water-spider, that there will be no occasion of doubt left hereafter.

The Description.

The Water-spider is a little creature, in shape very like a Spider, of a body somewhat long and slender: it hath four feet fast to its breast, and two little armes stretched out before near its mouth, perhaps in stead of horns; which if you reckon with its feet, it will have six feet: which yet (so far as we could observe) it useth not when it runneth: they are as short again as the rest of its feet, neither have they any knots or joynts like the other feet. Therefore *Albertus* and others allow but four feet to the Water-spider: but *Festus* six, reckoning these little armes together with its feet. It hath four wings, very feeble ones, which seem not to be made for flying, but for leaping. They are shorter than its body, and the uppermost of them a little thicker and larger than the others, but yet not of leather (like those sheathy cases) they are between a brazen colour and a black; the inner wings are lesser and thinner, and of a silver colour. Whether they fly by night like Water-beetles or no, we are uncertain; they leap sometimes upon the water so lightly, that they scarce so much as stir the surface of it. Hence grew that proverb among the Ancients, *Lighter than a Water-spider*. So *Pierius* being to express the lightness of men; and *Virgil*, the nimbleness of *Camilla*, compare them to the Water-spider. *Plantus* likewise in his *Persa*, *Neq; Tipula levius est pondus quam fides lenonia* (for so *Lambine* reads it, against the consent of all copies, even that of *Nonius*) *A Panders honesty is lighter than a Water-spider*: It runneth not in a continued course, but with intermission. It goeth not under water, but when it is driven thither by force: its body is never wet. They are found all the Summer time in standing waters and ponds which are free from the wind, and quiet: sometimes also they are met with in rivers, especially close by the banks of great rivers, and for the most part under the shades of trees (as of the willow, or any other tree, (which is not over tall): most commonly multitudes of them are together in companies. They are seen sometimes to couple leaping on one anothers backs, but they make an end of engendering very quickly. One shall hardly finde any one of them in Winter.

Their Use.

Whether they be of any use in Physick, besides the common use Flies are of, we leave for others to make experiment: for we know of none; nevertheless we utterly deny that these little creatures were brought forth by nature to no purpose. Certainly the Gudgeon, the Rochet, the Pearch, and other inhabitants in the dominions of the waters do sufficiently declare how useful they are for the feeding and fattning of Fishes. Without question *Festus*, *Nonius*, *Marcellus*, *Sipontinus*, and others, meant this Water-spider now described, as it will appear by their words. The *Tipula* (saith *Festus*) is a kinde of little creature, having six feet, but so light, that in running upon the water it seemeth to take no steps. *Peritius* saith upon the matter the same. The *Tipula* (saith *Nonius Marcellus*) is a very light creature, which doth not swim but go upon the water. *Varro* thus: *Levis Tipula levissime frigidis transit lacus*: for so the place which is corrupted, is to be read and corrected: *The light Water-spider very nimbly passeth over the cold ponds*. *Albertus Guillerinus de Conchis*, and *Vincentius* call it *Araneus Aquaticus*, interpreting the Dutch name (for it hath some likeness with the Spider) ascribing but four feet to the *Tipula*, not reckoning the little arms which are before, among its feet, since it doth not use them in going. Others (as I said before) reckoning those little arms among their feet do allow Water-spiders six feet. Hence it does most certainly appear, that we have described that very *Tipula* which *Plantus* mentions, so that there is no room left for any ones doubting hereafter. But before we go any further, the truth requires of me, that I confute two notorious errors of *Guillerinus de Conchis*. The first error is, when he saith that the Water-spider lives alike upon the water and upon the land: the other, when he saith, that it runneth very swiftly upon land; both which do evidently contradict experience: for upon land it doth not live long, nor run at all, but move with a very slow pace, and sometimes leap, but that very little.

Whether *Catrab* in *Avicen*, which is called by *Sylvaticus*, *Cutubut* and *Eckentubut*, be the Water-spider (as *Wierus* thinketh) I cannot say for certain: although indeed I am easily perswaded by reason of the circumstances, to believe that *Catrab* in *Avicen* is not the Water-spider. But let us hear *Avicens* description: *Catrab* (saith *Avicen*) is a little creature having its being on the surface of the water, which moveth upon it divers waies without order, and diveth ever and anon to the bottome, and presently appeareth above again. *Sylvaticus* hath almost the same word for word: only he adds, that whensoever any thing happens amiss to it, it runs away, and by and by appears again. From this little creature by reason of its restless and disordered motion, hither and thither, that kinde of melancholy which the Greeks call *λυγερθραπία*, the Latines *Insania Lupina*, is called by *Avicen*, *Catrab* and *Alcatrab*; with which when men are taken, they fly from the living, and go out by night, and frequent graves (as *Paulus* writes) and think indeed that they are turned into Wolves, as *Wierus* writes it befell a certain husbandman in Germany in the year 1541. The Ancients (saith *Wierus*) call a fly which is common in moorish grounds, *Tipula*. And we think *Manardus* made mention of this somewhere in his Epistles. Wherefore I am fully perswaded that *Catrab* is not this Water-spider, but some other little creature,

creature, the least of the kinde of Water-beetles, which with a restless motion moveth almost continually upon the surface of the water higher and thither without order (as we said in the History of them) and upon the least disturbance or stirring of the water, goeth to the bottome, and presently hideth it self in the mud, but by and by as soon as the billowes are down, riseth up again to the surface of the water. This little creature is seldome single, but many of them sport together in the same place, running up and down severall waies. I was once wont to behold with great delight these little very black and shining Beetles pulling one another, and as it were wrestling together. But of these we have spoken at large among the Water-beetles. And we shall take *Gaza's* Tipulæ into our consideration among the Water-worms.

The word *Ascaris* which they interpret Tipula, maketh nothing toward the illustration of this History.

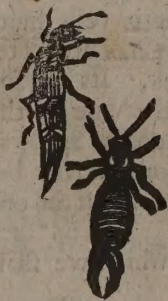
CHAP. XXVII.

Of the Forficula, or Earwig.

Arnoldus his *Forficula*, is called by the later Latine writers, *Auricularia*; by the more Ancient, *Mordella*: *Niphus* calls it *Vellicula à vellicando*, from rending; the French call the Earwig *Aureilliez*, or *Perceauraille*; the Germans, *Oren-worm*; the Low Dutch *Orenmetel*; the English, *Earwig*. *Hadrianus Junius* thinks it to be *Fullo*, which notwithstanding much differs from the form of a Beetle. Is this the Greeks *ἰσχυρὸν*? truly both the original of it and the biting agree thereunto; for this is bred also in the hollow stalks of herbs, (as of the wilde Parsnip, Angelica, Fennel Gigant) and is frequently seen in Coleworts. The Northern English by an obscene name call it *Twich-ballock*, as if you would call it *Scrotomordium*, or *ἰσχυρὸν*, for where ever it findes a rivled pleated skin, it will cause very great pain, either by biting with the mouth, or by winding about it with its forked tail; which *Pennius* saith once hapned to him being a boy. For we fell upon two sorts of Earwigs, both were with wings, contrary to the opinion of many. For if you force them here and there back again with a bull-rush, when they are hem'd in in some place or upon a table, (which the most illustrious *Knivet* taught *Pennius*) they will presently open their wings that are hid under their covers, and fly away. But you must take diligent heed that you press it not too hard with a straw or or rush, or wound it, for then if it would never so fain it cannot fly away. The more common is seen with a light

The Name.

The difference and description.



red colour; his foreyards, feet, and forked tail are yellow. The other (which is more rare in *England*, and was seen by me but once or twice) is greater than the former, and of a blacker body, hath a silver ring about the neck to adorn it; the outward covers of the wings are of a reddish colour: the mouth is forked and yellow; on the back on both sides near the sides, there arise five yellowish spots, the fork of the tail is short and black, and she lifts this toward her head and flies, being angry, into the air.

They are oft found in Coleworts and hollow Reeds, and in the little bladders of Elm leaves. They breed of worms that breed in the stalks: they yearly cast their old skin, and that being gone they look white as snow. But with age it growes again, and is died with its ancient colour. The English women hate them exceedingly, because of the flowers of Clove-gelliflowers that

they eat and spoyle, and they lay snares for them thus: They set in the utmost void places Ox-hoofs, Hogs-hoofs, or old cast things that are hollow, upon a staff fastned to the ground, and these are easily stuf with cloathes or straw; and when by night the earwigs creep into these to avoid the rain or to hide themselves, in the morning these old cast things being suddenly taken away and hook forth, a great multitude of them falls out, and are killed with treading upon them.

Arnoldus Breviar. 1. cap. 25. bids us to boyle them in common oyl, or oyl of Hearts-ease, and with that to anoint the arteries of such as are in a Convulsion, both their temples and wrists, to cause a Feaver, which is a remedy for a Convulsion. *Josephus Michaelis*, an Italian and a famous Physician, is wont to collect a great number of them, and to bring them to a fine powder in *Balneo* in a glasse very close stoppt. Then he mingles as much powder with Hares pisse, that he may pour into the ear morning and evening. He often protested to *Pennius* that this was a secret to cure deafness. Others mingle the powder with oyl of Cloves and use it as before. The smaller *Gallinago*, (which the English call a Suite) and Hens feed on Earwigs: and I well remember that I have found a great number of them in their Mawes.

Their Use.

CHAP. XXVIII.

Of the Scorpion, the Ant, and flying Lice.

L. II. c. 25.

The Name.



Aristotle 4. de partib. c. 6. denieth that Scorpions have wings; Scorpions (saith he) move not flying, but going. But latter ages since him have seen and acknowledged some of them to be winged. Apollodorus (witness Pliny) relateth that some of them for certain have wings, which Nicander also hath recorded. Panjanus in Bætic. speaking of winged Serpents, hath these words: Neither ought any one to be too forward to believe those things, which Nature more rarely representeth; nor yet to be altogether incredulous concerning them: I never saw any where flying Serpents, yet am I easily perswaded to believe that there are such, because a man of Phrygia lately brought into Ionia a winged Scorpion of the Locusts kinde. Paramenes also l. de Best. Venenatis in Egypt. reporteth that he saw, not with other mens eyes, but with his own eyes, Scorpions with wings, and armed with a double sting in their tail. With whom Alian agreeth l. 16. c. 42, 43. Megasthenes hath recorded that there are some in India among the Prasii, which have wings, and are *σπερμάντεις μύδισσι*, exceeding great ones. In Africk likewise there are some winged, and others without wings, having seven joynts in their tails, saith Strabo l. 15. Geogr. & l. 17. The Psylli (saith Pliny l. 11. c. 25.) have often endeavoured to bring them over into Italy, but they were not able to live beyond the climate of Sicily: yet there are seen of them sometimes in Italy, but harmless ones, and in many other places, as about Pharos in Egypt. We read also in the History of Navigations, that Ambolus the Portugal, while he stayed at Palimbrotia (it is a City situate by Ganges towards the East, and according to Diodorus Siculus built of old by Hercules) saw there great store of winged Scorpions. It might be called in Latine, *Nepales quasi Nepa alata*, for so Plantus calls the Scorpion in *Casina*, when he saith, *Recessim cedam ad parietem, imitabor nepam*. So again Cicero 5. de Finib. *Nepas aculeo uti videas*. Varro also and Columella do very often call the Scorpion by that name, although Festus understand by it a crab. Nonnius writeth that that name was borrowed from the Moors, by whom Scorpions were first called *Nepa*, and brought into Italy. Thou seest

here its ordinary bigness and shape; It is of a colour very like honey, whereupon it is called *μελίχλωρος*. The last joynt of the tail in this kinde is black, armed with a double sting, as if one could not do mischief enough: it hath wings like the mandible of the Locusts, it goes obliquely and after the manner of a Crab; it is very hurtfull to men, especially to young men and boyes. Alian attributes to it a glittering red colour, and calleth it flame-colour. Its poyson being hot, causeth extream heat; which happeneth otherwise in the Scorpions which have no wings. It kills Lizards, Adders, Spiders,

Whirls, and all kinde of Serpents, Alian. l. 8. c. 13. This kinde of Scorpion likewise being applyed to a wound made by it self, healeth it, as others do: and if the smell of one of them burnt come to other Scorpions, it driveth them out of a house.

Its Generation is after the same manner with theirs that have no wings, of which we shall treat at large in the second Book.

The Ant is called by the Latines *Formica à ferendis micis*, from carrying grains of corn, saith Isidore. The Greeks call it *μύρμηξ*, *μύρμηξ*, *μύρμηξ*, *βορρᾶνα*, *δρῆμα*, and *φέρμυξ*, by Hesychius and Varinus; it is called in Hebrew, *נמלה*; in French, *Fourmis*; in English, *Ant*, *Emmet*, *Pismire*; in Spanish, *Hormiga*; in Italian, *Formica*; in the Slavonian and Polonian Tongues *Mrawenecz*; in the Illyrian, *Mpowka*; in Low Dutch, *Miere*; in Flandrian, *Labnets*; it Dutch, *Omay*, *Ommes*, *Eims*. Now some Ants are winged, some without wings. One of the Greeks call those that are winged (of which only we treat in this Book) *μύρμηξ*; another calls them *σέφρος*; they are named by Aristotle *ἰσπομύμνους*, and simply *ἰσμίς*, l. 1. de Anim. part. by the Latines *Equites*, because of their exceeding swiftness, wherein they excel the others. They are of a larger body and bigger limbs than those that go and have no wings, (whereupon Pliny, if I mistake not, call'd them *Herculane*) and of a middle colour between black and swart: they have four silver coloured wings; their uppermost bigger and longer than their whole body; their inner wings half so big. I have nothing that I write for certain, concerning these Indian flying Ants. For Authors themselves are uncertain, and many late writers, having travelled over almost all India on foot, have yet found none of those gold-horders and devourers of flesh; Of which Megasthenes hath recorded thus much: There are found (saith he) among the Darda certain winged Ants no less than Foxes: Now the gold-stealers understanding that they feed upon the flesh of wilde beasts, strew pieces of it along the waies, and so while the Ants are overbusie about their meat, they take away without danger all the gold they had all this while stolen. Onesicritus writeth that he saw some of their skins like Panthers skins. The Book entituled *De Natura rerum*, so describes this winged creature, with hooked claws, a winged body

body, and a crooked beak, that one would take it for a Griffin rather than an Ant. That *Ethiopia* also breeds such, we read in *Philostratus*, who placeth Ants and Griffins also in *India*; which are not very like one another in shape, but both trusty keepers and diggers up of gold. The horns of the Indian Ant, set up in the Temple of *Hercules* at *Erythra*, were a wonder, as *Pliny* witnesseth, or rather lieth. He that desireth more dreams concerning them, let him read *Herodotus*, *Arrianns*, *Tzetzes*, *Strabo*, *Ælian*, and *Pliny*, who gave so much credit to lies carried to and fro and entertained, that they were not ashamed to put them down even for truths. But passing over the *Indian* Ants, let us treat of those in *Europe* only; whose course of life, fights, victories, policies, prudence, sagacity, parsimony, cunning, frugality, industry, æconomy, charity, fidelity, civility, valour, and laboriousness I would to the shame of men represent here; but that it would be necessary to repeat the same things in the second Book, when we shall treat of those that go, with which they agree in nature, and belong to the same Common-wealth. With these *Herculean* Ants bruised, and Salt and Pepper put to them, the Manginess, the Leprosie, and the Scurfe are cured. *Plin.* Oyl made of winged Ants, provoketh and strengtheneth *Venus*. *Wecker*. To conclude, whatsoever diseases other Ants are good for (and they help very many, as you shall read) the winged ones have the same or greater vertue in curing of them.

The medicinal use.

The way to make the Oyl is found in *Rhasis* and *Barthol. Montag. l. 5. tract. 18. c. 7.*

Agatharhistes tells us, that the *Acridophagi* or eaters of Locusts are not far distant from the inhabitants of the Red sea: which nation are of a lower stature than others, lean of visage, and extreame black. About the Vernal Æquinoctial, when the South-west and West winds blow with the *Italians*, an unspeakable multitude of great Locusts is brought to them with those winds, out of some place unknown, which differ little from birds in their faculty of flying, but in the shape of their body very much. With this sort of creatures they are nourished all this season, feeding upon them salted or otherwaies drest. And they catch them by fetching them down from the air to the ground with a smock. And these people are reported to excel in nimbleness and swiftness of foot: but taking a very dry nutriment, they do not prolong their life beyond forty years, nay and dye more miserably than they lived; for when old age drawes nigh, there breed in their bodies certain sorts of flying Lice, in figure indeed like Dog-flies, but otherwise less; they begin at the breast and the belly, and in a short space eat up all the skin of their face. Others of them are taken like those which have the Itch, thereupon they tear themselves grievously, and at length the disease being at a stay, and thin humours running at the coming out of these little creatures, they are fain poor wretches to undergo intolerable torments: and so by reason either of ill humors, or of their feeding, or of the badness of the air, they die. *Hieron. Mercurial. de morb. cut. ex Diodoro Siculo 4. Antiq. lib.*

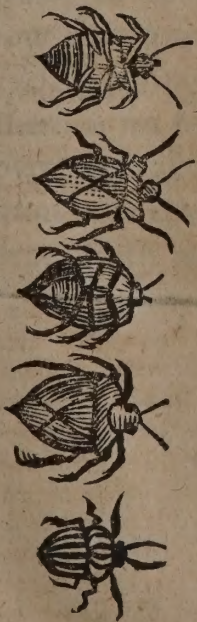
CHAP. XXIX.

Of the winged Punie or Wall-Louse.

When I had resolved to conclude this History of winged Insects, we had three wood Wall-lice of the sheath-winged kinde brought to us, which we here represent upon their backs, and upon their bellies. The back, the neck, the little hornes, and the sheathy cases of the first are of the colour of a Leek; its wings which are longer than its sheathy cases, are between green and yellow, as also its eyes and feet. The second is of a swart colour all over. The third hath its body variously coloured with black and red; its little hornes and feet coal-black: all of them do glitter here and there with a golden brightness (which *Pennius* observed not) and seem to be of a very compact and tender body. They are found sitting most commonly upon Mallowes, sometimes upon other plants and trees that bear Apples like Pine-apples, as likewise upon the Elm and the Willow. They copulate in the moneth of *May* tail to tail, and are almost a whole day about it. The male is less, the female bigger and broader. They fly in the heat of the day fast enough, but neither long nor far. There are bred with us (saith *Cardane*) in the grass two Animals like Wall-lice, the one in smell but not in shape; the other in shape but not in smell: but neither of them is of the species of Wall-lice, because they both fly. *lib. de variet. rer.* But he that shall observe their stink and outward shape of body, will not turn them out of the family of the Wall-lice, for their wings sake: although indeed the field kindes are six times as big as those in houses. *Jacobus Quicquelbergius* sent two other kindes of them to *Pennius* from the parts about *Vienna*, which were waved with a golden and black colour. *Matthiolus* not at all understanding

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Pliny



**Their Medici-
nal use.**

Pliny, denieth that they have any vertue in them. But *Pliny* many waies commendeth the garden Wall-lice, being reduced to ashes and infused in oyl of Roses, against pains of the ears. *Palladius* useth these with the Lees of Oyl, an Oxe Gall, Ivy-leaves and Oyl, for an oymntment for the birings of venomous Horseleeches. Let the head of the yerd be put into Oyl of Camomil pretty hot, in which Wall-lice have boyled; then let the head of the yerd when it is taken out of the oyl, be anointed with pounded Garlick, and the patient will certainly make water. *Arnoldus de villa nova l. 2. Breviarii, c. de stranguria & dysuria.* Are not these to be taken for those Wall-lice, which the Dutch call *Knolsters* and *Qualsters*? And hitherto hath been said what we know of winged Insects: ye *Ptererus's*, *Camearius's*, *Clusius's*, *Quickelbergius's*, and ye later and more laborious sons of *Esculapius* (whom *Phœbus* moulded out of richer clay) if you have any thing which is here wanting, make addition of it, according to your wonted courtesie and ingenuity, remembering that of the old Poet:

Καὶ δὲ π, καὶ λάβε π· ἄρτοι αἱ Μεσῶν θυγαί.

When you receive, you ought to give withall:
The Muses gates are wide, and liberall.

OF

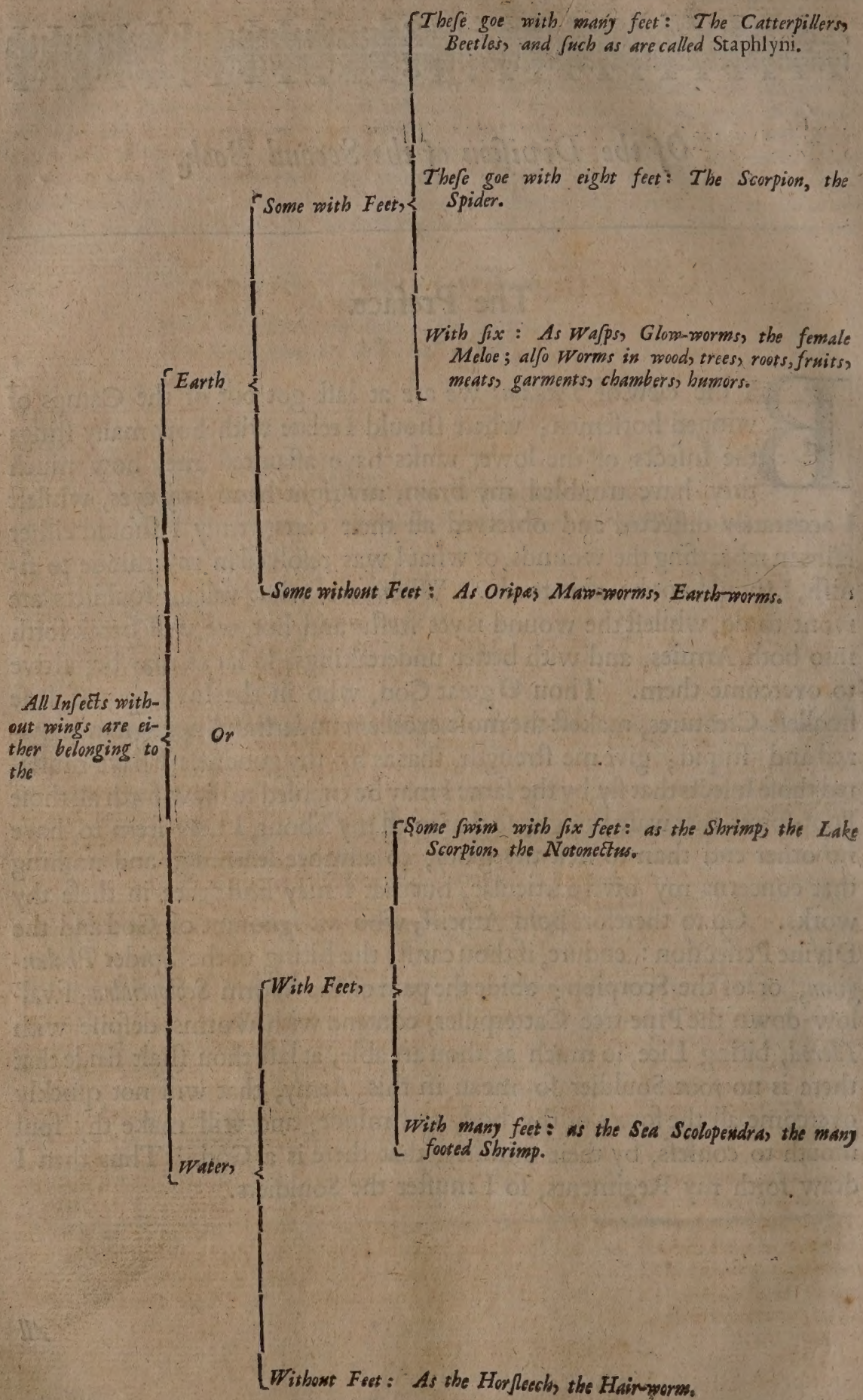


Of the Division of the Second Book.

The Preface.

BY the clew of *Dædalus* we are at last got out of the Camps of winged horsemen; where should I relate with how many stings the Insects of the lower ranks have assaulted me, how much they have troubled my brain, my right hand, my eyes, whilst I accurately dissected and observed all their parts, truly I should either faint in rehearsing the wounds, or what I was resolved in my minde to finish, I should not be able to do. Wherefore, what valiant souldiers are wont to do, whilst the wound is yet fresh and hot, we will break forth into both Armies, and with better undertakings, so far as may be, strive to overcome them. Thou O great God, who in the Inventory of these smallest Creatures, makest the most excellent understandings to stand amazed and stupid; give me strength, that as by thy goodness I have mustered those Insects that fly, by the same I may be enabled to draw forth all those Foot-forces that want wings; so that in all my labour, I may seem to have no other end than to seek thy glory, to advance learning, and nothing that concerns my own particular, but that I may finde thee in these thy works. Go to therefore bold Atheist, who art ignorant of God and the Divine Perfection: endure, if thou canst, the biting of the Spider *Phalangium*, or of the Scorpion; abide the pain of the Worm *Scolopendra*; swallow down the Pine-tree Catterpillar, contend with Worms, despise with *Herod*, biting Lice, so much as thou art able, at last thou shalt finde that there is no foot Souldier so mean in this Army, that will not quickly overcome all the forces of thy body and minde, and will make thy foul mouth to confess, by their ministry, that there is a God. Thus then I draw forth my Regiments, so I muster the Souldiers.

All



THE
THEATER of INSECTS:
OR,
Of lesser living Creatures.
BOOK II.

CHAP. I.

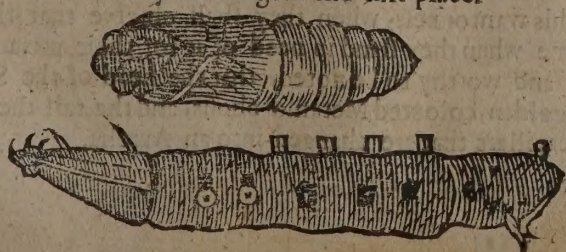
Concerning Catterpillers and their several kindes, and namely of
Silk-spinners, and Silk-worms.

WEE thought fit to place in the Front, Catterpillers, the devourers of Egypt: because they are most different in their kindes, and also some of them are excellent for their use and worth. It is no fond conceit to maintain that Catterpillers had their name in Latine from devouring, for they eat up leaves, boughs, flowers, fruits; which also may be observed in the Peach. *Ovid* called these Field-worms:

*Field-worms that weave their hoary thred on boughs, we finde
That they with painted Butterflies do change their kinde.*

The Greeks call a Catterpillar *αἰμωίη*, from the waving and vaulting motion, when it creeps, whereby it lifts up and contracts it self. The Hebrews call it *Ghazam*, because it sheareth the fruits of the earth, as *Kimhi* saith on *Joel* the first. The Italians call it *Rugaverme*, and *Bruchos* for so saith *Marcellus Virgilius* upon *Dioscorides*. In our times, saith he, our whole Countrey calls all kindes of Catterpillers *Bruchi*. The Spaniards call them *Oruga*; the French, *Chenille*, *Chatterpillers* *Onbuts*; the Southern call them *Palmer-worms*; in the Poles language, a Catterpillar is called *Rup hausenka*; in the German Tongue *Ein Raupe*; in Low Dutch, *Ruype*; in Sclavonish, *Gafienica*; the Pelants call them *Certris*, and *Cedebroa*.

I should be endless if I should add all kindes of Catterpillers; for some feel rough, others soft, some have horns, (and that either in their head or in their tail); some are without horns; some have many feet, some fewer, but none have above sixteen feet. Most of them move swiftly in a waving posture; yet others there are that go even and slowly. Some do yearly change their old skin, and others do not. Some are changed into *Aurelia's* fixed above the earth, whence are bred your ordinary Butterflies, others are transformed under the earth, and become Glow-worms. Also some of their *Aurelia's* are smooth and equal; some again are hairy and wrinkled, pointed at the ends, sharp; some (namely of the harder kinde) naked, but others (namely of the tenderest) are covered with moss or filken down. The most of them are bred of the eggs of Butterflies, and are changed into *Aurelia's*: some are bred on the leaves of trees, of the proper seed left there in the web in Autumn; or of the dew or air shut up in it, and corrupting there, as Vine-fretters. Some again feed on leaves, some on flowers, and some on fruits. We, to expresse both kindes of Catterpillers, shall divide them into those that are bred from other things; and those that are bred from their own kinde alone. Such as are bred from other things, again, are either smooth or hairy; as also those are that proceed from their own kindes. Amongst the smooth Catterpillers, the Silkworm deservedly challengeth the first place.



Edward Mar-
tin Borellus,
lib. 5.



A worm that to a Fly transformed is, and then
Transformed back once more is made a worm agen;
Twice it both dies and lives anew, is wasted ore
By Charon twice unto the Elizian shore.
Its successor is left half living and half dead,
Which after spins silk robes for those are finely bred.
Fine thread this Silk-worm makes, why doth she labour thus?
It is not for her self she labours, but for us.
Her fleece was formerly an ornament for Kings,
But this prodigious age confusion brings:
So prodigal of silks, that the vile rabble, clowns,
Oyster-wives, herb-women, shine in silk suits and gowns:
Nothing more common now for all than silk attire,
Which wastes and burns mens hearts with continual fire.

In which words, though our divine Poet, who was more clear than the ancient Bards, doth something touch upon the Silk-worms, and paint them forth, yet he doth not describe them so fully, that it may suffice for the History of them. For Silk-worms are smooth Caterpillars almost of a milky colour, with small black eyes, and as you see, with a forked mouth. The snow white ones are bred of Butterflies eggs, which growing by degrees into little worms, produce Silk-worms of the same colour with Butterflies. And that I may not repeat this again, let it suffice that I have once said it; the Butterfly is almost alwaies of the same colour with its Caterpillar. That Butterfly forsaking its Aurelia, as many eggs as it leaves, or seeds (if you will) like to eggs, they become so many Silk-worms afterwards; which, if you cherish them, when they are fostered by the Suns heat, and full fed with Mulberry leaves, they will repay a reward worth your cost and care, namely a silken fleece. They breed first in May, in which moneth and the two following moneths, they devour a multitude of leaves, and in eating as it were by sucking they harden: when they are grown up with plenty of nourishment, being become able, they spin a most fine web out of themselves, like to a Spiders web. Then against cold weather, they grow rough with hair, and make themselves new thick coats for Winter, by the sharpness of their claws, pulling the down of their skins into fleeces: then they thicken and close it, carding it with their feet; then they draw it out amongst the boughs, and make it small as with a comb: lastly they take hold of this web, and wrap their body in it, making a round nest. Then men take them, and put them in earthen vessels, and feed them with bran, and so there spring up feathers of their kinde; which, so soon as they are prepared with, they are set to perform other tasks. But the spinning work they began, growes pliable by moisture, and is spun into threads on a small spindle. Some women do use to draw it forth into yarn, and then they weave it. *Pamphila* the daughter of *Larous* was the first that was reported to have woven in the Island of *Co*. Also *Pliny* reports that Silk-worms are bred in that Island, *Plin. lib. 11. cap. 23.* the flowers of the Cypress, Turpentine, Ash, Oake-trees, being beaten down to the ground by showres, whence they receive life. Though women were the first inventers of this Art, yet men are not ashamed to wear these garments for lightness in Summer. The customes of men are so far degenerate from Arms, that their very cloathes are grown burthensome. The thinner and softer the leaves are they feed upon, the finer Silk these Silk-worms make: wherefore amongst the people of *Seres* in *Scythia*, the most soft garments are made; which we call silken, as *Marcellinus* witnesseth, *lib. Hist. 23.* In *India* also and in *Egypt* there is great plenty and use of them, and are brought from thence to the *Spaniards* and *Italians*, being the greatest cause of wantonness amongst mortals. So often as I consider, that some ten thousands of Silk-worms labouring continually night and day, can hardly make three ounces of Silk, so often do I condemn the excessive profusion and luxuriousness of men in such costly things who defile with dirt, Silks and Velvets, that were formerly the ornaments of Kings, and make no more reckoning of them now, than of an old tattered cloak, as if they were ashamed to esteem better of an honourable thing than of a base, and were wholly bent upon waste. The Greeks call this Caterpillar *sis*, and *Bombyx*, which name is become Latine. The *Italians* call it *Bigatto*; the *Spaniards*, *Gusano della seda*; the French, *Ver à Soye*; the Germans, *Ein Seyde worme*; the English, *Silk-worm*. Amongst whom a Silken habit is so much loved and valued, that they despise their own Wool, (which compared with Silk, is not contemptible, and is the most profitable and the greatest merchandise of the Kingdome.) But time will make them forgoe this wantonness, when they shall observe that their moneys are treasured up in *Italy* at that time, when they stand in need of it for their private or publick affairs. This is a pleasant thing and worthy to be noted, that the head of the Silk-worm, makes the tail of the Butterfly in that golden coloured Metamorphosis, and the tail the head; which also happeneth in all other Caterpillars that are changed into an Aurelia.

The Name.



CHAP. II.

Of the rest of the smooth Caterpillars.

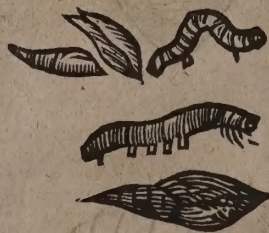
Green 5. **A**LL the other smooth Caterpillars, are either green or yellow, or reddish, or dark, or various colours. The chief Caterpillar of the green, is that which hangs upon the Privet; a circle surrounds the face of it, and all its feet; and it hath a horn turned backwards in the tail. They are black and red, spots are made athwart their sides, they are half purple, half white; the small spots are red, but their whole body appears green. That upon the Elder-tree differs not much from it, but that it is altogether green, except those overthwart spots very white, and some little points like milk. It chiefly feeds on the reddish coloured Elder.



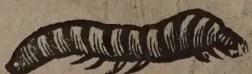
The third, that is all green, when Autumn comes is transformed into a blackish case: it feeds on the softer Pot-herbs, especially on Lettice, whence we call it the Lettice Caterpillar.



The fourth upon the Medlar-tree is less, all over green, drawing it self into an ash-coloured case, all besprinkled with most black spots.



The fifth is least of all, spins its threds on trees, (especially upon the Oake, and descends by them upon the heads of those that pass along, and intangles their hats and cloathes: a very little creature, most noted in Summer, and obvious every where, when the fall of the leaf is at hand; he wraps himself in a coarse web, and being shut up in a red and green cover, he dieth in Winter. He hath but ten feet, as all the rest that went before had.



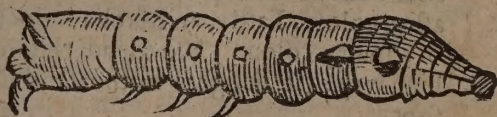
*Yellowish
are 3.*

We call them yellowish, that are most part yellow: such these figures present you with, which is kept, wheresoever they are void of black, overcast that with a paler yellow, and you have their figures painted. They live on softer leaves, especially on the Tiel-tree.

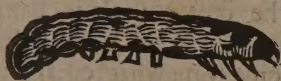




Vinula is next in order ; which is a most delicate Catterpillar, and beautiful beyond belief, we have found it on the Willow feeding greedily, the lips and mouth of it are a pale yellow, the eyes are fiery, the forehead is purple, the feet and the lower body green, the tail is forked, blacker than grapes, the whole body is spotted as with thick and dark red wine, which passing from the neck crossway to the very tail, a most white line doth wonderfully adorn it.



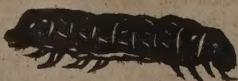
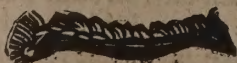
The Catterpillar called *Porcellus*, Dark 2. is black, brown, especially the greater, but the lesser hath the circles white. Frequently they are found on the leaves of meadow Trifolie, and they devour them with wonderful swiftness.



Three various colours are chiefly observed ; the first hath a blewish face, and very black eyes, the outward skin of the back is grayish, much besprinkled with black and yellow spots ; it is changed into an Aurelia of a bright bay garnished with a white small membrane ; it loveth Cabbage and all kinde of Turneps.

The second hath the head and feet and tail very black, being chequered with yellow ; the chequering that are painted on them inwardly, are distinguished by channels black and gray, drawn longwaies by turns. It loveth Fennel, and Anniseed, and Cummin.

The third is green from white, bunched as it goeth along, for it hath only six feet on both sides, as those before. It is changed into an Aurelia set with prickles, of a dark colour. It consumes Olives.



The fourth feeds on Dragon-wort, and resembles a spotted Viper ; it goes alwaies with the head upright, and leans chiefly on its breast. It loves Bulrushes, and plants that bear down, and are bred in rivers.

If you paint the ribs descending of the fifth kinde with old Minium, there will be few things in the picture that shall not agree with the truth.

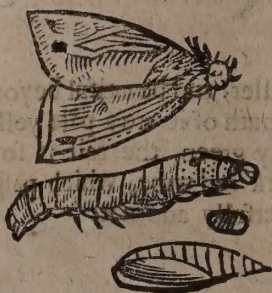
In the sixth what you see white, paint with Ocre. Both of them delight in the black Poplar-tree, and feed greedily on it.

Tree

The



The chamferings bred in the seventh, must be white from yellow; all the rest of the body is of a dark colour, and changeth it self into an Aurelia, of a light red colour.



The eighth seems of the colour of ashes, waving out of black: it makes a case between black and a bright red, whence growes a dusky coloured Glow-worm.



The ninth is various, and deservedly thought so: the roundles of the incisions are green; the horn of the tail is bent backwards, and is of a bright blew; under which a red coloured spot serves to make it beautiful: the middle part of the incisions is ashes colour. Lastly, an Aurelia is included of a murrey colour. We found this in the high way; it delights in the field Crow-foot.



The tenth is gray and black; for what is here white, lay gray upon it, and it will represent the creature. It is changed into a spiral case, of a weak blew colour; the roundles being somewhat red; and it comes next to the form of a horn fashion periwinkle.

The smooth Catterpillar comes from the wilde night-shade (which the Italians call *Belladonna*) of a green and yellow colour, it hath a horn in the forehead as long as ones finger, which *Cardanus* relates that he saw often.

CHAP. III.

Of Catterpillers rough and hairy.

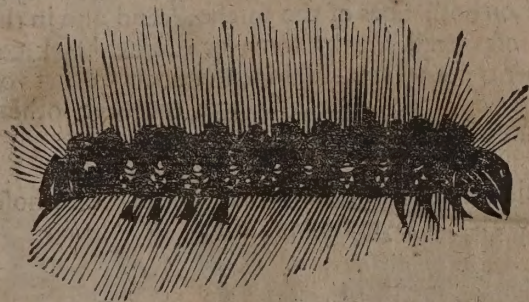
Those with hairs are the most mischievous of all: some are very thick of hair, others thinner; whereof I here afford you the kinds. Amongst those of the thicker hair, are walkers up and down, such as are upon Nut-tree leaves, Pine-trees; such as have sayl-yards, such as are called *Neustria*, Pear-eaters; such as are upon Nettles, Cabbage, Hedges, feeders on Poplar, such as lose their skins, such as are amongst Marigolds, black and green, &c. Those that have thinner hairs are *Echini*, dwellers amongst Fennel, eaters of bushes, half white: of which we shall speak in order.

Pityocampes, that is, Catterpillers on the Pitch and Pine trees, are as thick as a mans little finger, and as long as the breadth of three fingers. They have eleven incisions between their heads and tails, and they have sixteen feet like the rest, namely about the head on both sides three, on the middle of their bodies on both sides four, and at the ends of their tails on both sides one: but the first are crooked and small, wherewith they try their way, the rest are broader and jagged like sawes, that they may stick the faster to the boughs. The head is like an Ant, the rest like common Catterpillers; they are rough with hair and encompassed on all sides with straight bristles: the hairs bred on the ir sides are white, they shine on their backs; the middle part whereof is adorned with spots like to eyes; the bristles being shaved off, there is a black skin underneath, their hairs very slender, yet they prick more sharply than a nettle, and cause very great pain, heat, a Feaver, pricking, unquietness. For the poyson enters suddenly without any sense of the wound, and is carryed to the parts next the bowels. They spin fine webs like to Spiders, drawing and disposing their threds with their fore-feet. Towards night they go under these, as they were

rents,

tents, that they may escape the inconveniencies of cold and storms. The matter of this tent is so fast and fine, that it is not in danger by the greatest winds, nor is it sob'd with rain: and it is so spacious, that a thousand Caterpillars may be under it. They make their nests in the small boughs of the Pine and Pitch trees, where they live not solitary as others do, but by flocks: which way so ever they bend their course, they spin and carry their thred for the web along with them; and at break of day, if it be but fair weather, the great ones accompany the lesser by troops, and having made the trees void of leaves, for they consume them all, they labour hard in weaving. Only these plagues of the Pine and Pitch trees do not meddle with other Cone Apple trees. In Mount *Athos*, the woods of *Trent*, and in the vallies beyond the *Alps* they abound very much, by reason of plenty of leaves for their nourishment, as *Matthiolus* witnesseth. They are truly most venomous creatures, whether you touch them outwardly with your hands, or they be given inwardly. They were of old esteemed so certainly to be poyson, that *Ulpian* interpreting the *Cornelian* Law concerning private murderers, set down amongst them to be punished those that give a Pine Caterpillar to drink. *Seet. Alium. ff. ad leg. Corn. de sic.* When one hath swallowed a Pine Caterpillar, the pain grievously afflicts both the mouth and palat; the tongue, belly and stomach are greatly inflamed by the corroding poyson: also a wonderful pain vexeth them, though at first they seemed only to feel a pleasant kinde of tickling: great heat followeth, loathing of meat, and a perpetual desire to vomit, but ineffectual. At length if it be not helped, they burn the body, and make the stomach crusty almost like to *Arsenick*. *Diosc. Aetius, Plin. Cels. Gal.* also 11. *simpl. c. 5.* and *Avic. sof. cap. 25.* Hence it is that *Aetius* and *Aegineta* held it dangerous to set the table for meat under the Pine-tree, or for to stay there, lest perhaps by the reak of the meat or vapour of the broth, or by noise of men, these Pine Caterpillars should be moved and fall down upon the meat, or should let fall their seeds, that are as deadly as themselves. They that are hurt by these must use the remedies against *Cantharides*, for the same means will cure them: but properly oyl made of *Quinces*, called *melinum*, and oyl Olive, is to be drank twice or thrice to cause vomit, as *Dioscorides* from *Aetius* hath prescribed. They are bred, or rather regenerated, as Vine-fretters are, from Autumnal seed left in the web in certain bladders, or from the Vine-fretters themselves corrupted, as *Scaliger* thought.

Now we proceed to walkers about. We call those walkers, who have no certain houses or food: wherefore they do something superstitiously wander like pilgrims, and like to Mice, they alwaies feed on others meat, wherefore the English call them *Palmer-worms*, namely for their wandring life, for they dwell no where, though by reason of their hair they are called *Bear-worms*. They will not be tied to any kinde of flowers or leaves, but they pass on boldly, and taste of all plants and trees, and feed where they please.

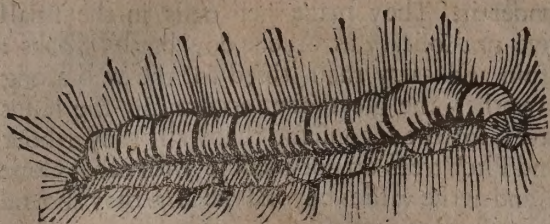


First those white spots which we see in their sides, must be such really; the whole body is black, all the inward hairs must be somewhat yellow, but all the uppermost on the back must be hoary, except those three ranks that are bred in the neck near the head, for they have the same colour with the hairs of the belly. Out of the *Aurelia* of this comes forth the Butterfly which you see here: whose colour, figure, and nature, we described in the Book before.

The second, if you make the neck and belly, and the hair there growing, yellow, you need do no more. The cover of it seems dusky, the eggs are pale. We explained the Butterfly that growes from thence in the former Book.

The third is, the whole body and hair, dusky yellow, but that the spots on each side being obliquely made in each incision lie hid, and the head being of a light red, is adorned with a certain white fork.

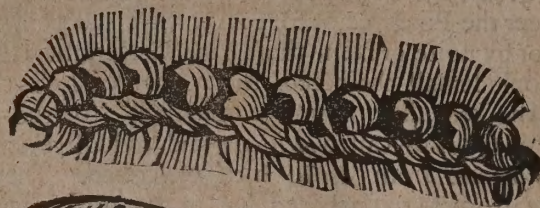
Signs of a
Pine Caterpillar
drank
and the cure.



The fourth hath his belly and lower hairs dusky, the back and upper hairs are yellow from dusky, a double forked line in the face resembles the colour of whey, or milk mingled with water.



The fifth hath a bright bay colour in the face, the sides of the belly hoary, a body various with small yellowish spots, and above these with black; yellow hairs come forth like small rags; they are sharp, and growing more sharp pointed from the middle: it hurts much the neighbouring herbs and the corn.



The sixth is a brown colour'd, if the incisions were not died with black and white spots here and there; the hairs are bred above and beneath, and set after a saw fashion; they are very rough and hard, but they are of the colour of the body.



The seventh hath a black skin, yet it hath hairs something of a dirty colour, I use to call it the *Pensill*, because on both sides of the forehead, and also in the rump a soft pensil breaks forth of a crow-black colour: but those wedge fashioned eminences that you see in the back, are white as milk at the root, otherwise somewhat black.



The eighth holds forth a Mouse colour, on whose back thote seven joynts resemble it.



The ninth is a strange and rare colour: for all the incisions are painted with various colours one from another, yet mingled one with another, which a silver stud doth adorn severally one by one.



The tenth is amongst the sports of wanton nature, not less elegant than it is rare, being streaked with black, green, blew, yellow ridges, and smooth strings; which some golden spots do wonderfully illustrate: it hath very soft hair, of an admirable and most pleasing freshness; it hath a purple cover fortified with a small membrane.



Suppose the white incisions of the eleventh to be green as Leeks, and paint the skin and hairs half green.



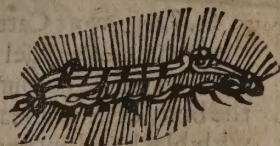
The Nut-tree Caterpillar is of a pale green, except three black spots between the joints, and that horn at the end of the back, and growing as it were on the rump, which receives a fresh rose colour. It especially sits on the leaves of the Hazel-nut, whence we call it *Corylaria*. I saw two kinds of them, one was a full, the other a paler green.



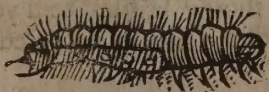
The manifold delicacy of Nature shines forth in these, to which though it giveth them the face of a *Moor* or *Egyptian*, yet it affords them a garment that is of changeable colours, shining in divers works and real art; in the forehead, the hairs are knit as into knotty locks, and resemble the sail-yard: the like are found in the extremity of their backs. The skin is like the rain-bow, and shines in circles deeply dyed with purple, which nature hath fastned to the sides like broad studs; the hairs bred in the skin, shine like the Sun, and dazle our eyes in a clear day.



We received two *Neustria* out of Normandy, the first had a face of a blew colour, and the body ridged with white red and gray streaks; the hairs are comely with a golden shining colour. The lesser rolled together, is like an Urchin; the head is cole-black, the body is variously spotted with little blew spots; the hairs resemble a Saffron lustre.



This corrupts the buds of the pear tree, having a black smudged face; the body is adorned with some black red white ridges; in the middle as it were of the shoulders, and to the end almost of the back, little swellings or bunches arise of black and blew colour, sprinkled with white spots. The Eggs from whence they breed are a bright bay colour, which is also the colour of the *Aurelia*, and of the hair. We saw another of the same kinde, but only it had a bunch on the back.



We call that half white, which is by nature yellow from the head to half the back, and the rest white as a Lilly. The belly is yellow and ash-coloured, adorned with studs, and chequered in the middle.

If you touch the feet of the Nettle Caterpillar lightly with a fading yellow, the figure will differ little from the natural: it hath hard upright hairs growing like thorns, they wound with a small touch, and at first they cause a pleasant itching, but venomous; but after that a pain hard to be endured. Some maintain that it is more venomous than the Pine-tree Caterpillar.





On a Cabbage a Caterpillar breeds with a bright blew head, his body is marked with two yellow branches on both sides; between which a grayish plat as it were, seems to be spotted with some black seeds: the hairs obtain the colour of the Aurelia, which is ashes colour.



Here we shew you two hedge Caterpillers, the greater hath a face Saffron coloured, but that triangle you see in place of its nose, was Lilly coloured: the body is varied with spots, white, yellow, red and black, (which we have expressed) placed in no order; it is rough with yellowish hairs: it devours the leaves of hedges and makes them naked: where at length, leaving a bottom of yarn of courser silk, she drawes her self into a case of a bay colour, as into a sepulchre. The lesser hath a countenance blewish, as also the whole body, except that it hath spots black and white; it hath hairs of the same colour with the former.

These have fewer hairs: namely, Cranesbill-eater Caterpillers, St. James wort Caterpillers, Sayl-yard, Urchin, Bramble Caterpillers, and that little horn beast, which the Germans call Horn-worm.



We have here set down exactly the form and magnitude of the Cranesbill-eater, you must make the white spots that adorn its black girdles of an iron colour; and paint the belly and feet, and the white space between the girdles, with a Leek-green colour. *Camerarius* sent this to *Pennins*, with this subscription: A great Caterpillar, feeding only on wilde herbs, and is especially an enemy to Crowfoot Cranesbill in the Marishes.



The body of the Sayl-yard is various; from the head to the third incision, you would say he were smeared with chalk, in the five following with ashy dark colour, and on the three last with white lead; the sayls are made of hairs as it were platted together, the like stand up at the end of his back like a crest: Those four tufts on the back are made of hairs also growing in order like to teeth.



St. James wort Caterpillar, or that which eats the greater Groundsel; with the head and feet of a decayed purple colour, the belly of a pale green, hath the body of an unpleasant fading green, and adorned with black yellow and fiery coloured spots; the colour of the hair agree with the belly.

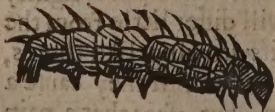
I have observed two kindes of Urchins, one of a blewish green, the other a mingled white.



The first of the Urchin Caterpillers hath a chequered body, varied with black and yellow; the thorny bristles seem yellow, when Autumn comes it is transformed into an ashy coloured Aurelia.



The second is perfectly like an Urchin, half the back, namely the first half, is black from yellow, the latter is white from yellow, it hath pricks very sharp and thick, of a grayish colour.



Nature hath painted the bramble Caterpillar ashy black, on both sides with three ridges of a pale yellow colour: the hairs are very thin, and altogether black.



There

There is also the horn Catterpillar, who hath many green spots from yellow, the hairs bred on the middle of the back are hoary, but the horn is notched and red.



Many diversities there are of these Catterpillers upon the Mullen, Hop, Pile-wort, Bitter-sweet, Nightshade, Elder, Elm, Bassil, Tythimals, and almost every herb hath its particular devouring Catterpillar: which, that I may not prove tedious, I overpass, as well enough known. I never had the hap to see the stinking Catterpillar of *Gesner*, described by him in these words, as I have it in writing: It is, saith he, most like the horned Catterpillar, but it differs something in the horns and colour. I took one creeping on a wall at the end of *August* in 1550. It sends forth a filthy smell, that you would verily believe it were venomous: it was angry, and with its two forefeet it held the head alwaies upright: I think it is blinde, it was a finger long, and thick, it was rough on the back and sides, with a few hairs scattering on them; the back was black; the colour of the belly and sides was reddish from yellow: the whole body is distinguished by fourteen distinct knots: all these joynts again have a prop or wrinkle over the back; it hath a black somewhat hard head, the mouth is forked and dented, or saw-fashioned; whatsoever it catcheth with these nippers, it bites it: it goes on sixteen feet, as most of the Catterpillers do, without doubt it is venomous. *Vergerus* thought it to be the Pine-Catterpillar; others thought it was Scolopendra. But its number of feet will not let it be Scolopendra. I could scarce endure the smell while I took the description alive: it did so infect two stoves with an extreme and intolerable stink, that I could not stay to endure it: so sayeth *Gesner*.

CHAP. IV.

Of the original, breeding, nourishment, and change of Catterpillars.

Dear book, the faithfull witnesse of my pain,
Let not the purple red thy fair cheeks stain,
Whilest I in tables paint the rude worms races,
And such as change their skins into a case.
For these by Gods wise hand created are;
Which in small things is wonderful and rare,
And more to be admired in Worms, than Whales;
Or Elephants, Leviathan with scales,
Arm'd as with harnesses, strong as iron bars,
And roars like thunder terrible in wars;
Who drinks the sea, and spews it up again,
Compar'd with worms, will be admir'd in vain.

So I shall begin with our Poet, who observed a divine power in Catterpillers from their Original; which whilet divers Authors have diversly expressed, I know not into how great dark-

darkness they have cast us. *Aristot.* 5. *Hist.* 19. writes, that they begin from green leaves of herbs, as from Cabbage, or Radish: namely by a seed like Millet left there in Autumn, whence little Worms proceed. From these Worms in three daies space Caterpillers breed at the end of the Spring; which being augmented and nourished sufficiently, they leave off moving, and at the beginning of Autumn they change their form and life for an Aurelia. *Pliny* saith that dew thickned by heat of the Sun, is left upon the leaves, whence he derives all kindes of Caterpillers, to whom *Arnoldus* agrees: others say they all come from Butterflies; which so soon as they come forth of their Aureliae, they thrust forth (above or beneath the leaves hard by) some eggs (the barbarous call them *Turds*) and these are greater or less, according to their bodies (some of these have blew shells, some yellow, some white or black, green or red) in fourteen daies they are hatched by heat of the Sun, and the shell breaking, they thrust forth small Caterpillers like very small Worms, but coloured: at first beginning they are very hungry, and do nothing but devour leaves and flowers, especially of those herbs and plants where they were left in eggs. But I should maintain that they are not bred only one way, but all these waies: for though *Aristotles* doctrine seems to some not acute enough, that the Cabbage little Worm grows to be a Caterpillar; yet it is not against reason; for as nature from an egg, so from a worm she produceth a more perfect living creature, as perfecting, not as corrupting. For though the worm be not that it was before, (as is clear to sense) yet as much as can be perceived, it is both what it was, and is now somewhat more, for a Worm doth not dye that a Caterpillar may be bred: but adds a greater magnitude to its former body and feet, colour, wings; to life remaining, it gets other parts, and other offices: so the off-spring of man (I use *Scaligers* words) after some daies at first of a man in posse, is made a man actually; you must understand its generation, in which time the intellectual soul doth not yet act, but it bears the same proportion to a man that shall be, as a Worm doth to a Caterpillar or Bee. So also *Pennius* derided the opinion of *Pliny*, when he writ that Caterpillers were bred of dew, yet all Philosophers with one consent agree, that the more imperfect small creatures are bred of dew. And not without cause. For the Sun by heating acts, being like the form, and the humour is like the matter. The Suns heat is different from the fire, for it gives life, or it preserves the souls in their likeness. For the dew hath the proportion and softness of the air, where *Theophrastus* alledgeth the affect of softness (in his Book of Plants) as proper for generating air. Also nothing is more nourishing than dew, by which alone some little creatures live: which also the divine Poet said; *How much doth dew lay up in the night!* Therefore as it is humour, it is the matter, as it is thin, it enters, as it is drawn by the Sun, and concocted, it is the fitter for generation; for the preparation of the form carries the matter along with it, and these going together it falls out that a living creature is generated. And it is not only an off-spring of dew, but the daughter of Butterflies, as we said, and as experience testifieth: and the greatest part of Caterpillers come from them, besides the Cabbage and Vine-fretters, few are bred otherwise. For these that the Greeks call *ims*, are made of dew, or a humour shut up in webs and putrefying, especially when the wind is East, and the air warm, that hastneth corruption. For then such a mighty army of them breaks forth in our Countrey, that we cannot truly say or think so many could be bred any way but from corruption. They are all gluttonous devourers of herbs and trees: whence *Philip* the Parasite boasts of himself in *Athenens* in his Pythagorist, for feeding on Thyme and Pot-herbs, *I am a Caterpillar.* *Martial* speaks to the same purpose, *One garden will hardly feed a Caterpillar.* When their time of eating is over, they wander up and down here and there hungry, and by degrees growing lean with hunger, some within, some above the earth, seek for a fit place, where they are transformed into an Aurelia covered with a Membrane, and hanging by a thred, or into a bare case; if this happen in the midst of Summer, after 24 daies the shell breaking, a Butte fly presently flies out: but if Autumn be well spent, the Aurelia lasts all the Winter, and shuts out nothing till the heat of the Spring. Yet all Caterpillers are not changed into Aurelia's, but some are contracted (as Vine-fretters) and corrupt, from whom oft-times three blackish eggs fall, that are the mothers of Flies or Cantharides: when your Butter-flies copulate very late, they bring forth eggs (even untill the next Spring) that have life, (if you take diligent care of them) as it is usual in Silk-worms, whose eggs are sold commonly amongst the *Spaniards* by ounces, and pounds. *Theophrastus* distinguisheth the transformation of these Caterpillers rightly in these words, in his second of Plants: First, of a Caterpillar is made an Aurelia, and of this a Butterfly, then of that a Caterpillar again. But whether this Aurelian Chrysalis be a living creature or not, we shall dispute when we come to speak of Insects without feet.

CHAP. V.

Of the quality and use of Caterpillers, and of their Antidotes.

ALL Caterpillers have a burning quality and pilling of the skin, and raising of blisters. The most deadly is the Pine Caterpillar, yet they are all venomous, but least of all those that are smooth and without hair. The daughter of *Calius secundus*, being at *Basil* (saith *Gesner*) when

when she had devoured some Cabbage Catterpillers in the garden, after much vomiting, her belly swelled, the swelling troubled her many years, and no cure would be found for it. *William Turner* a Divine and a learned Physician, the happy father of one *Peter* who was born to give physick to Physick it self, prescribed a purging potion for a noble Woman of *England*, by the help whereof she vomited up a hairy Catterpillar, which being swallowed by negligence, had long afflicted her with cruel torments: yet we may remember (saith *Marcellus Virgilinus*) that there are beasts in the sea of the same names, and called Catterpillers, and are far from being poyson; and amongst those men that live by the sea side, are the last dish at their tables. We have shewed remedies against the mischievous and venomous ones before, in the Histories of *Cantharides*, *Buprestis*, and *Piryocampes*, for they admit of, and require the same cure. If you would have your garden or trees free from them, what webs you see hang on the naked boughs you must sweep off in Winter; for if you let them remain till the Spring, they will breed before you can remove them. In a short space they devour all green things, and consume the flowers: some anoint their trees with the gall of a green Lizard, or of a Bull, which as it is commonly reported, they cannot endure. The Countreymen use to stifle them with some brimstone and straw set a fire under the trees. The earth dug up under the root of the great bearing mast tree, if it be strewed in a garden, drives away Catterpillers, saith *Hildegard*. I should pass over the Remedy *Columella* hath prescribed, as a shameless delusion of *Democritus*, did not *Pliny* and almost all the rest approve of it, who meddle with husbandry: the words are these:

*But if against this plague no Art prevail,
The Trojan Arts will do't, when others fail.
A woman barefoot with her hair untied,
And naked breasts must walk as if she cried,
And after Venus sports she must surround*

*Ten times, the garden beds and orchard ground.
When she hath done, 'tis wonderful to see,
The Catterpillers fall off from the tree,
As fast as drops of rain, when with a crook,
For Acorns or Apples the tree is shook.*

They touch not Plants that are besprinkled with Wine. *Theophrast*. They presently dye with the smoke of the herb *Pfora*. *Aetius*. Hence it appears (saith *Silvius*) that the vulgarly called Scabious, is not *Pfora*. The Cabbage is free from Catterpillers, if it be fenced with Vetches. The Worms found in Fullers Teasels, make them fall if they but touch the Cabbage Catterpillers. *Pliny*. Strew your Cabbage with Nitre, or salt earth, whilst it hath lost but three leaves, or strew it with ashes, and by the saltness of it, it will drive away Catterpillers. *Geopon*. *Palladius* in this matter prefers the Fig-tree ashes. If Crabs or river Crevish, were hanged up and exposed to the Sun for ten daies, they will drive Catterpillers from Pot herbs. *Cardan* out of *Palladius*. Others wet the seeds just before they set them, in the bloud of a Catterpillar, or the juice of Marjoram, to free them from Catterpillers. A sea Onion set or hung in a garden, hinders the Catterpillers from breeding. Some sow Mints, others Vetches, others Wormwood about their gardens to drive away Catterpillers. Some not without cause, have Coleworts and Garlick leaves in their gardens, by the fume whereof spread every way the Catterpillers fall down. *Palladius*, where any man may easily read of many remedies against them. If a Horse devour them, swellings arise, the skin of him grows dry and hard, his eyes hollow, saith *Heracles*, and he prescribes this remedy: *You must take the sharpest Vinegar and Nitre three quarters of a pint, Vitriol a fourth part; mingle them and anoint the Horses body, be careful that it enter not into his eyes.* Now we shall speak of the use of them in Physick, and in the Common-wealth. The Catterpillers web and covering (like to silk) being drank stops a womans courses. *Math*. If it be burnt and put into the nostrils, it stops bleeding at the nose. The Catterpillar feeding on Privet, doth not only in a strange manner allure the Carp, if it be put on the hook for a bait, but also the dung of it put into the nostrils, presently helps the falling sickness in women, that proceeds from the Matrix, as I was told by a Midwife that was very experienced, and worthy to be believed. The Catterpillers that are upon Spurges (in the opinion of *Hippocrates*) are very good for purulent wombs, especially if they be dried in the Sun, with the double weight of dunghil Worms, and adding a little Anniseed, bringing them into powder, and infusing them in the best white Wine, and so giving them to drink. But heaviness following in the belly with numbness, let the Patient drink a little water and honey after it. *Hippocrat. lib. de supersæt.* prescribes those ordinary Catterpillers that are in troopsto be given in drink against the Quinsy. *Dioscor. lib. i. cap. 90.* But unless they do profit by their secret quality, I think they are to be rejected for their open quality, especially in that disease. The Germans know that the hairy Catterpillar dried and powdered, stops the flux of the belly. *Nicander* also useth them to procure sleep: for so he writes, And *Jeremy Martius* thus translates him:

*Stamp but with oyl those Worms that eat the leaves,
Whose backs are painted with a greenish hue,
Anoint your body with't, and whilst that cleaves,
You shall with gentle sleep bid cares adieu.*

There are in prickly and hairy plants, such as the Nettle is, some downy and hairy Catterpillers, by tradition are held to cure children, when they cannot swallow their meat for straightness

ness of their jaws. A Caterpillar that lives on Pot-herbs being bruised and anointed where a Serpent hath stung, is very good. *Avicen.* If you rub a rotten tooth often with a Cabbage Caterpillar, it will soon fall out of it self, saith the same Author. Caterpillars mingled with Oyl, drive away Serpents. *Dioscor.* If you anoint your hands or other parts with the same Oyl, it will keep them from being hurt by Wasps or Hornets. *Actius.* *Pliny* citeth many superstitious things from the opinion of Magicians concerning the vertue of Caterpillars; which because I see they are cast forth of the Schools of Divines, and I in my judgement do secretly disavow them, I will not repeat them here. They are meat also for divers Birds that we eat, and are useful for us, as namely Choughs, Starlings, Peacocks, Hens, Thrushes, to say nothing of Trouts, Robbin-red-breasts, Tenches, Carps, Pikes, which are easily deceived by a Caterpillar bait. And if you desire to know the waies of deceiving them; see *Terentius* in *Geopon.* who is there (that I may not overpass the Physick of the soul given by Caterpillars) that hath not sung of Gods mercies shewed to the wandring *Israelites*, when all *Egypt* swarm'd and was even drowned with the deluge of them? Also amongst the *Romans* there was twice in one Summer such a cloud of Caterpillars, *Anno 1570.* that put them in great fear, for they left no green thing in their fields, but devoured all. Though the fruitfulness of the next year did blot out the memory of this grievous punishment, yet we may not doubt but it put many of them in minde to lead better lives. God grant that we may escape by being corrected in the punishment of other men. Let us think no creature of God to be contemptible, for God can, if he please, make the smallest the greatest judgement.

CHAP. VI.

Of the Whirlworm.

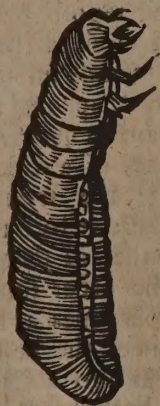
THE Greeks call it *Σπονδυλάν*; which *Gaza* interprets by *Verticillus*: *Pliny* changeth not the Greek word, but calls it *Sphondylam*; the Germans *Eugerle*, as *George Agricola* teacheth. *Gesner* writes it was called *Twaer*, because it goeth diversly with sawed feet. The Northern English call it *Andever*; the Southern, *Whirlworm*, that is, a Whirl or little hairy Worm with many feet: *Vincentius* calls it *Zuvarola*, because it hurts gourds: *Pliny* was in an error, that makes this a Serpent, since the kinde of life and reason it self numbers it amongst Insects. Should I here add the differences between *Gaza*, *Pliny*, *Theophrastus*, *Absyrtnus*, *Phavorinus*, and the Scholiast on *Aristophanes*, and *Erasmus*, concerning the nature and form of this Whirlworm, I should indeed trifle, and rather bring fire to quench this fire amongst wits, than water. But I rather collect out of their dissensions, that there are two kindes of Whirlworms; one about houses, another in the fields. For so *Aristotle* and *Absyrtnus* write. *Staphulinus* is like to the Whirlworms that are about houses. For saith he, your house Whirlworms copulate backward, and that in our sight, as Beetles do, the male coming upon the female, and they stick long in copulation. Away then with these triflings of *Pliny*, that would have these to be Serpents, which never copulate backwards. *Hesychius* and *Favorinus* that follows him describe them thus: *Men say that the Whirl is like to an Insect called Silphium, making a stinking smell, if any one touch it.* But *Aristophanes* and his Scholiast, paint it out thus: *A Whirl is an Insect like to a Blood-sucker.* *Camerfius* out of *Aristophanes* saith, *a Whirl is a worm like a Leech, smelling most stinkingly.* Whence I collect that there is a house Whirl like to *Silphius*, and smells so scurvily, which if you touch, runs away, and stinks for fear: for so *Aristophanes* hath it, *ἔν σπῆρμ.* As the Whirl flying from you breaks wind stinkingly. In which verse I cannot but wonder that *Erasmus* (I know not by what Atticism) calls the Whirl *Telem*, *Chil. Adag. 3. cent. 7.* *Pliny* saith it is a very small body, and blackish, which if it be touched whilest it lives, and after it is dead, sends forth a most terrible smell. I confess ingenuously, that I never yet saw it nor know whether it be so by a contrariety in our land or climate. Concerning the field Whirl, we read thus in *Theophrastus*, as *Gaza* hath interpreted, of small wilde creatures that are bred outwardly, that is not in the roots but without them, none of them will feed on roots except the Whirl, and that leaves none untouched, for it is the proper nature of this Insect. *George Agricola* a most learned Philosopher, writes thus of Whirls that feed on roots: The Whirlworm is found under the earth wrapt up near the roots, (which truly I could never observe) and hence it hath its name *Sphondyle* from a little wherve or whirl. It is so long and thick as ones little finger, a red head, the rest of the body white, but that it is black above, where it swells when it is full. This plague of Orchards, which wants not feet (for it hath six feet) and doth not creep, eats up the pills about the roots of young trees; nor doth it at all forbear the roots of wilde Cucumers, black Chameleon, Centaury, hogs Fennel, Birthwort, Briony, which no other Insect whatsoever will touch. This Whirl without all doubt is the Insect that *Malleolus* in his Book of his filthy Exorcisms brings in these words: There is, saith he, a certain worm which the Germans call *Engar* or *Ingar*, it liveth under the earth, is so long as ones middle finger, of a white colour, a black head, six feet, which by turning about, furrowing and turning up the earth, and eating the roots, maketh plants barren.

The third year after its generation, it breaks forth like flying Pismires, which like their predecessors stick about trees, and consume the fruit. Then they call it *Lanbkæfer*. In the Diocess of *Mentz* there were such multitudes of them, that all remedies were attempted in vain, only they were driven away by charms (for so *Malleolus* reports) *Cordus* also speaks of them. *Spondyles* are worms under ground, the Germans call them *Engar* or *Ingar*, called so from the Greek *ἐγγύριος*.

The next year after they are bred, they are alwaies transformed into *May* Beetles: they hurt roots much, and feed on all kinds, (be the bitter or venomous) of young sprouts, and trees roots, so that suddenly the whole plants, or at least the leaves shall fade. When the Gardners see this, they dig about the roots of trees, and fetch forth these Worms and kill them. They do us most hurt in the moneths of *April* and *May*; in *July* and *August* many are found with us in marshy grounds, but there are no *May* worms but in *Devonshire* and *Cornwall*, and in the west of *England*. This we must note diligently, that it falls out with Insects as with Plants, that they change their colour with the climate and the earth. I have seen and I have by me a Whirl like a Catterpillar, that is of colour white from Ash-colour, with a black head, if it be touched it collects it self into a ball, and it fitly resembles the Whirl in a womans spindle when they spin; whence it hath its name. It is benumbed out of the earth, and cannot endure the air; being wounded, a moisture comes forth of a pale black, wherewith one may write Letters as by enamelling.

I have also a reddish Whirl that lives in the earth two foot deep, whose head is exceeding black, his mouth forked, the neck is reddish from yellow, the back is scarlet dye, the six forefeet are red-lead colour, the belly and all the body are perfect yellow, but that on both sides near the belly there are eight red spots, for ornament. It is so long as ones middle finger, and Summer coming, it is transformed into a Fly. I have seen one also clear coloured, with a thicker body, blewish from the middle of the back to the tail. But from the neck it appeared more grayish, the head and feet were yellow, the mouth was forked and red: whilest it is young the whole body is white, in age it grows yellow and blew, and it begins from the tail. It is wonderful how it will carry its body long and broad waies by a waving motion, and yet never change the place, and in moving it often changes colours. For whilest it lies on the earth it is all white, but when it is forced to move, as if it were angry, it appears black and blew. It is altogether like to the great Worms in wood, as for the form of its body, but they cannot wreath and turn themselves round. I have seen a great Fly bred from this Worm that hath four wings. We have another that was found at the roots of Onions; and almost of the same magnitude with the black and blew one, with a green head, and fourteen feet; it hath horns, and a tail green from white: the whole body is green, white, bloud red, noted with mingled colours: we call it *Onion Catterpillar*, we here represent the figures of them all. Now we shall add the opinion of *Joach. Camerarius* concerning Whirls, whose judgement I alwaies commend. It may be, saith he, Whirls are

those Worms that are found in the earth at the beginning of the Spring, that are almost white, or rather somewhat black and blew; which in Autumn become dark green, and with a shining skin, are coloured with a dark dye: their head is a light bay enclining to black, and something hard, that it can easily gnaw roots. Catterpillers soon rowl themselves up and die, and take other forms of Flies or Catterpillers. They are a finger thick, and an inch and half long, they have eight feet in the middle of their body toward the head. Our Countrey call them *Eardworms*. *Guilandinus* saith that *Whirls* are Worms so called, that like a Whirl they are round about the roots of trees. Also other Worms that are black, somewhat reddish, and have shell covers, with many feet, like the *Scolopendra* (and they seem to be of kind unto it, but that they are rounder, and not so broad) are found in the earth, and are dug out at the beginning of Summer, and roll themselves up the same way, as I said, if any one touch them. They also call these *Engerlin*, in Germany, that are yellow Worms under the earth with a black head, and near to that small feet, but have none in the rest of their bodies. These when they are dug up turn themselves into a round form, and being laid in the Sun they presently consume; for they live only under ground and eat the roots of Plants. Who would not account all these Worms that turn themselves round, to be amongst Whirls? So far *Camerarius*. *Niphus* upon *Aristotle* saith that Whirls are a round





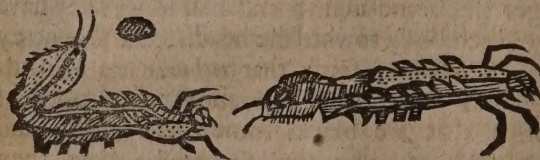
round kinde of Spider, in the middle of whose body a cavity is to be seen, that resembles a Whirl of a spindle. But this was his dream against the Philosophers minde, and he deceived us. What use there is of Whirls in Physick I never read, nor do I know. This is certain from the Prince of the Philosophers, that Owls and night Ravens hunt after them, as also Moles, as it is probable: *Cordus* holds them to be venomous. In *Egypt* the Scorpions that they call *Sibyle*, eat Whirlworms, as *Alian* testifieth: but we shall pass from these to those called *Staphylini*.

CHAP. VII.

Of a Catterpillar called *Staphylinus*.

Aza translates *Staphylinos*, a Parsnip, either by sleepy carelesness, or rather ignorance: but as it appears in the short expositions of *Nicander*, the ancient Physicians knew it not sufficiently. For the Scholiast writes that *Staphylinus* is a little creature like a Whirl: others say it is like the Spanish Fly. *Hippocrates* speaks once of it, but describes it not.

Aristotle treating of the diseases of Horses, calls it an incurable disease, if a horse swallow a *Staphylinus*, that is like to a Whirl. But *Absyrtus* writes thus: A *Staphylinus* is like to a Whirl that is about houses, but is greater; it is bred every where in the fields, and goes holding up the tail. Whence I perceive it were no hard matter to know a *Staphylinus*, if the home bred Whirls were not unknown to us. But that I may do my part and satisfie my Reader, I will produce two Insects with their figures, which I cannot tell whether they may be called *Staphylini* or not. But that they are not far different from them is more than a conjecture. The



first (as you see) is all shining black, not much unlike to Beetles, but the body is more slender and longer. The whole body is two fingers square or somewhat less in length, the tail is with two forks; which whilest it flies away (for it will fly away and run very swiftly) it lifts up, as it were in its own defence, and thrusts out like two short stings very white: but we never saw it sting or strike with them; and the stings are too small and soft to enter: when he puts out these stings in anger, it pours forth with them a white and thick substance, but softer than a moist ointment. It lives most under ground, yet it is often seen amongst corn above the earth. But I cannot say that it is like to the Whirl that *Aristotle* or *Absyrtus* speaks of. The countrey people in *Kent* hold this to be a venomous creature, and that Oxen are swollen by this poyson as they are with eating *Long-legs*. It appears indeed that this *Staphylinus* is a venomous creature, not only from their report, but by the authority of *Aristotle* and *Nicander*. I received the second kinde of *Staphylinus*, a Worm of a wonderful form, from a Nobleman *Edmund Knivet*, exactly deciphered with his own hand, and they are very common in *Norfolk* in

England. He hath a small head, of a dark colour from red, almost round; the mouth is small and forked. Next the head it hath three feet on each side; the two former of them are short (like to Catterpillers) the other four are almost of a bloody colour, four times as long. In the middle of the body under the belly it hath eight feet that are blunt, as also a Catter-

pillar hath. The tail is bunchy and forked with two hairs. We learn hence that both these kindes are naturally venomous, because two horses eating hay and swallowing them down, were swoln all their bodies over, and died by them. In which disease it will not be useless to know *Absyrtus* his remedy, that in the like case we may have it ready, and cure our horses. For if a Horse eat a *Staphylinus*, whilest he feeds on hay or eats, he presently casts him out again, by reason of the sharpness of the spirits of it, and as it were Vipers blood. But presently he swells exceedingly. first therefore foment the swellings, largely washing and rubbing them with salt water very hot: then take vinegar Lees, and put into them fine linnen cut, and boyl this with water, and anoint him all over: but when he takes his physick, let him remain in a hot house, and a soft stall, covered

red well with cloathes, and let a good fire be kept continually by him. Anoint him abundantly in the morning, then the third day wash him well with hot water, and dry up his sweat, then rub him in a close place, and having rubbed him, anoint him with Nitre. And fear not though his lips and eyes swell, (for it useth so to fall out) for the Horse will certainly recover suddenly by this means, and be as well as he was before. But whether these be the same with *Staphylinus* of *Cordus*, or the *Courfilles* in *France*, let indifferent men judge. They are found in Orchards sometimes so long as ones little finger, and they make hillocks like to Moles, and there they sleep. They chiefly do mischief to Thyme and Elder, yet not so, but they hurt other plants and herbs also. If there be any that know any thing more certainly concerning *Staphylinus*, they are to be desired, for Physick and Philosophy sake, that they will not refuse to add their talent. So at last the natural History of Insects shall be enriched by their labour, and shall repay them not only great thanks, but also their part in a large increase.

CHAP. VIII.

Concerning the *Scolopendra* and *Juli*.

THE *Scolopendra*, and *Juli*, and *Cheesclips* march in the last rank. They far surpass in the number of their feet, Caterpillars, Staphylini, and Whirlworms, and all kindes of Insects, whence they are called Many-feet by a peculiar name belonging to them. *Aristotle* calls this *Scolopendra*; *Theophrastus*, *Scolopia*; *Dioscorides* (from the destruction of Serpents) calls it *Ophiotone*; *Varinus* and *Hesychius* call it *Amphydes phaganon*; others, *En-l*, and some call it *Thousand-feet*, and *Many-feet*; the vulgar Greeks call it *Scolopetra*; the Latines also call this *Scolopendra* and *Sepa*, and *dirty-hog*, and *hundred-feet*, *thousand-feet*, *many-feet*; which three last names also they give to *Juli*. In Hebrew they call it *Ghazam*; in Arabick, *Alcamptia*, and *Alamula*, as *Silvaticus* testifies; *Albertus* calls it *Almuga*, *Altapua*; in the Polish Tongue, *Stonogrobak*, *Gaflauka*; in the Hungarian Tongue, *Zones*, *Hiragopap*, *Matzkaia*; in High Dutch, *Ein nassel*; in Italian, *Centopede Vermi*; in French, *Chenille*, *Millepied*; in English, *Scolopender* and *Manyfoot*. In my judgement it differs as far from *Julus*, as a sea Lobster from a *Crevin*. They are indeed like to one another, but these are alwaies less, nor are they so mischievous when they bite, nor so venomous.

The Name.

The great earth Scolopender is as long and thick as you have it pictured; the colour of the body is black from brown, and shining. To every incision a yellow little foot is joyned, that is, in the several sides sixty. It goeth forward and backward with equal ease. For it goes with the head forward, and with the tail forward; and therefore *Nicander* and *Rhodoginus* call it two heads. It hath the part between the head and belly not single, but manifold; whence it comes to pass that this kinde can live though it be cut in sunder. This Scolopender being provoked bites so sharply, that *Ludovicus Armarus* (who gave me one brought out of *Africa*) could scarce endure him to bite his hand, though he had a good glove on, and a double linnen cloth; for he strook his forked mouth deep into the cloth, and hung a long time, and would hardly be shaken off.



Another was brought from new *Hispaniola*, which had on the midst of the back a flame coloured line to adorn it; and a red side, and colour of the hair set it forth. It had feet like to hairs, and lifting it self upon them all, it ran very swiftly: this is worthy of the greatest admiration, that Nature having given to this creature a small head, yet it hath given memory to it, and the rule of reason, not in pints and pitchers, but in the largest measure. For seeing it hath feet innumerable as Rovers, and many of them are from the Rudder the head at a great distance, yet every one knows his own office, and as the head directs, so they all frame their motion.



Uuuu

Another

Another was brought to us from St. *Augustines* Promontory out of *India*, something greater in body and feet: which had 70 black and blew incisions, and twice as many light red feet.



I doubt not but more sorts of Scolopenders may be found, of almost all colours except green; yet *Ardoynus* makes mention of one that was green. Each of them hath an inbred property, to go to the roots of sword grafs (as *Theophrastus* thinks). But *Robertus Constantinus* deserves to be whipt, and so doth *Stephanus* that follows him, and *Ardoynus* himself, who invent that a Scolopender is first a Serpent, then hath eight feet, then a horn in its tail, and lastly, it is a slow goer. *Albertus*, *Rhodoginus*, *Avicenna*, are to be blamed also, who affirm rashly, that no Insect hath above twenty feet, and they put the Scolopender in that number. Yet *Nicander* calls him two headed in these verses:

*The Scolopender hath each end a head;
And stings with both, untill that men be dead:
With feet like ores he wafts himself along, &c.*

Yet by the favour of so great an Author, I might say that he hath but one head; though he can as easily move forward or backward with his tail conducting him, as with his head. And this I believe deceived *Nicander* and others. But he saith farther, that he bites at both ends; which is as false as the former; for he bites only with his forked mouth, and hurts not with his tail, otherwaies than by a venomous touch, and by putting forth poysonous bloud.

Oppianus holds it to be more fierce than the sea Scolopender, and so it is indeed: and I greatly wonder that *Grevinus Parisiensis*, upon no authority, in his Book of Venomes should oppose this.

All Histories testifie that this creature is dangerous and venomous, and so much the more as it is more hairy. We read in *Ælian* that the *Rhytenses* were driven out of their City by the multitudes of these creatures: and *Theophrastus* affirms the like concerning the *Oberietes* in *Pliny*: therefore though we have ranked the Scolopenders in the last place, yet in executing divine vengeance, they may sometimes challenge the first place. Countrey people do judge of fair weather by the frequent coming forth of the Scolopenders; and when they hide themselves they foreshew rain, as *Marcellus Virgilius* hath noted on *Dioscorides*. They have these uses in Physick. If they be boyled in Oyl, they take off hair with a little pricking, *Gal. 11. Simpl.* and *Actius lib. 7.* They are enemies to Wiglice, that are most stinking creatures, and kill them with their breath, or eat them alive. Again, Wiglice being either taken inwardly, or anointed outwardly, are a remedy for their bitings, by a reciprocal, and as it were emulating antipathy, as is manifest from *Pliny*, and *Ardoynus lib. 6.* concerning poysons. When the land Scolopender hath bitten, the place is all black and blew, putrefies and swells, and looks like to the dregs of red Wine, and is ulcerated with the first bite. *Ægineta*. *Actius* adds that the pain is intolerable. *Dioscorides* saith the whole body pricks. All hold that this bite is incurable, and will admit almost no remedy. It hath (saith *Anazarbens*) symptomes, prevention, and cure, the same as for the stinging of a Viper, *lib. 6. c. 23.* Against this disease some things are taken inwardly, some things are applied outwardly.

Amongst inward Remedies, *Ægineta* commends Trifoly that smells like Bitumen, drank with Wine. *Dioscor.* approves much of wild Rue, the root of Dragons bruised, the root, seeds, and flowers of Asphodill, the branches and leaves of Serpol, Calamint, the roots of Fennel and Birthwort, given with pure Wine, or Wine and Oyl. *Actuarius* gives Nix with Wine. *Pliny* commends Salt with Vinegar, or rather the froth of Salt as being the better. Also he highly esteems of Horse-mints, or wilde Penniroyal taken in Wine. *Actius* bids give Wormwood and Mints with Wine.

As for outward Remedies, first scarifie the place hurt, make deep incision, and draw out the venome by Cupping-glasses; then put in the juice of the lesser Centory, boyle with a third part of sweet Wine to the consistence of Honey, and binde a leather over it for eight or fourteen daies. Then foment the place with a sponge dipt in hot Wine, and this is a certain cure for the bite of a Scolopender. *Anonymus*. *Pliny* also prescribed divers remedies for it, as the dregs of Vinegar, washing the place with Vinegar, the flower of Miller with liquid pitch, Butter with Honey, the green Figs of the wilde fig-tree with Vetches and Wine, the Urine of the patient hurt and of a Wether, burnt Salt anointed with Vinegar and Honey, wilde Penniroyal with Salt, Salt with Tar and Honey, wilde Cummin with Oyl; and all kindes of Maiden-hairs. *Dioscorides* commends Garlick, with Fig-leaves and Cummin, and with Vetch Meal and Wine, also the leaves of Calamint, and burnt Barley with Vinegar; also he commends a Fomentation made

of

of sowre Pickle: *Archigenes* bids foment the part with Allum-water: *Agineta* saith, with much hot Oyl. *Nonius* prescribes hot Oyl of Rue.

Some commend exceedingly both outwardly and inwardly such things as are given against the biting of a Shrew. *Aristotle* writes that the Scolopenders are deluded and drawn forth with the fume of liquid Storax, and are easily taken whilst they stick to the clamminess of it.

Of the Juli.

THE kinds of the Juli follow next: which the Greeks call *Ἰούλι*; and that as I think not from their down, but from the tails of Walnuts and smal Nuts, whose hair being fastned in a hard substance, represents these Cats-tails, whence they had the names of Juli. I know the Latines call them *Juli*, but I should call them *Galleys*. For *Lycophron* called the *Galleys* of *Paris* that were swift with many ores, *Ἰουλίτες*. *Nicander* applies the same similitude to Scolopenders; whence it may easily appear, that Juli and Scolopenders are like one to the other. The Spaniards call these *Centopeas*: the Italians, *Centogambi*. It may be the English after me will call them Gally-worms: *Numenius* also called earth-worms black Juli, as *Athenaeus* witnesseth lib. 7.

Black Juli that feed on earth are called the earths bowels; yet unless they have many feet, they cannot be numbred or named amongst the Juli. Juli are as I said, short Scolopenders, that for the number of their feet, exceed not only Hoglice, and all Carterpillers, but also all other Insects. Some Juli are smooth, others hairy. I saw a smooth one in a Cabbage Lettice

as thick as a small river bulrush, and of the same magnitude you see it here: it had a very black head, the back was of a golden colour, the belly was silver coloured from gray, the incisions and hairy feet were so many that they easily overcame both the eyes and memory. The second was all black, except a white line, which was drawn down the back, straight from head to the tail. The third was a decayed yellow, his head and feet were red, the sailyards, and the hairs growing near the tail, were black and blew. If you paint the fourth with a body blackish red, and his feet and sailyards lighter, you have rightly set him out: we caught some of these coming forth of moss growing on the barks of trees, and others lurking under trees and rotten logs. I could meet but with two hairy ones. The first was white of this form and figure, it crept on a wall, the short hairs that grew on



were black. The second had a black and blewish belly, and a back spotted with an uncommonly yellow. The mouth was red, a black eye, the hairs were hoary. It lies hid in old decayed trees between the bark and the wood; and also amongst stones that are overgrown with mosse and thick downy hair. All these Gally-worms, if they be touched roll themselves up, and become round. I cannot tell whether they are venomous or not, but if they be, *Ohappy Pennius*, who divers times with his bare hand provoked and killed them, and yet was never bitten nor hurt by them. *George Agricola* tells us of a Gally-worm of a brazen colour (but he calls it a Scolopender) his words are these: A little Scolopender is bred and lives in the logs of trees, or in posts driven into the earth, (whence it hath its name) remove these or stir them, and it will come forth; otherwise it alwaies lurks there. It hath no feathers, but hath many feet: when it creeps it lifts up the middle of a body like a vault: if you touch it with a little wand or any other thing, it rolls it self together. It is of a brazen colour, a slender body, not broad, but three fingers long, or at most four.

Also it is found in another form, almost in the very same places, with a slender round body, the thickness almost of a thread, of an allayed bright bay colour, the feet are so many and so small, that it is impossible to number them. It is four fingers broad in length; it remains under rotten trees and plants. *Avicenna* makes the Scolopender (which is also a Gally-worm) to have 44 feet only, and to be the palm of ones hand long; so small and slender, that it can creep into the ears. *Lib. 4. Fen. 6. tract. 5. cap. 19.* This creature, saith he, hath no venome, or but very weak, and causeth no great pain: which is presently taken away with the flowers of *Asphodils*, or with Salt mingled with Vinegar. Our Gally-worms (saith *Gesner*) if they be in the houses, they will come together to *St. Thomas Sugar*, that is the most pure, (as Mice do to the best Cheese). Our Countreyman *Bruerus* (a skilful and laborious searcher of Nature) reports that he hath seen here in *England* Scolopenders, and kept them, that shined in the night, and in mossy and broomy grounds shined with their whole body: who was no lier, and I willingly give credit to him; and so much the rather, because *Ovidius* saith he observed the same in new *Hispaniola* in the fields, and *Cordus* did the like in *Germany* in moist cellars. It seems strange that *Plutarch* relates, *Lib. 8. Sympof. problem. 9.* that a stripling at *Athens* cast up a small ragged creature, together with a great deal of seed: it had many feet, and walked exceeding fast.

The Gally-worm found in cellars, burnt to powder, doth wonderfully provoke Urine. *Me-The Use.* The blood of Gally-worms, with the moisture pressed out of Hoglice, is a divine and excellent remedy to take away the white spots of the eyes. *Arnold. Brev. 1. cap. 18.*

them into moist white Ashes, and then give them with Honey. *Pliny* saith they cure short breaths 21 being bruised with Athenian Honey, and with little hot water, drank through a reed, that the teeth and mouth may not grow black. *Aetius* for the same infirmity, gives five or six with Hydromel. And *Marcellus* the Emperick reports, *cb. 35.* that 21 Hog-lice stamped with the best Honey, and drank with water, will cure short windedness, purpiveness, and such as are almost choked, and the Leprosie also, beyond belief. *Pliny* writes that they are good in drink for Consumptions, who farther maintains, that a penny weight of them given in three ounces of Wine to drink, will cure the pains of the loyns and hips. *Alexis* of *Piemont* subscribes to this; but *Calius Aurelianus* dislikes this, and the like remedies from Insects; being so perswaded from the unusualness of such remedies, rather than from any hurt or inconvenience that proceeds from them. Experience confirms that many fresh Hog-lice well bruised and drank with Wine, Ale, Beer, or any convenient liquor, or applyed but outwardly, can cure almost all diseases of the eyes that arise from any thing growing in them, or growing to them, (except the Cataract) which we observed in the former Chapter out of the Breviary of *Arnoldus*. For a Quinsey, saith *Galen*, *κρ ππ.* they must be licked with Honey, and the outside of the throat must be anointed with the same. Hog-lice boyled with oyl of Roses and heated in a Pomegranate shell, and poured into the ears that are pained, do cure them. *Dioscorides*. *Gal. lib. sec. loc. & Eupor.* commanded to boyl 2, 3 or 4 in oyl, and to press out the oyl and drop it into the ears of those wee deaf, or had pains or tinklings in their ears. Oyl of Chisleps dropped into that ear is next an aking tooth takes away the pain certainly, that ariseth from a hot cause. *Aetius* 24. 27. Some mingle them with some convenient unguent and drop them into the ears. *Severus* (saith *Galen*) poured them into ulcerated ears with good successe. *Faventinus* prescribes 21 Chisleps boyled in sower Oyl, for pains of the ears proceeding from cold: in which he shews that they must be anointed about the ears, and a little must be dropped in. *Cardan* justifies the same remedy by experience. For Wens, *Pliny* takes a fourth part of Rosin or Turpentine to the dunghil Chislep, by which Medicament (saith he) swellings under the ears, Kings-evils, and all such tumors are cured. *Marcellus Empericus* hath the same, and *Avicenna* 2.2. *cap. 729.* and from the authority of others, he adds, that Chisleps taken in drink, cure the Cramp, and Aluczes, which we have never known any to have said besides. If you often apply Oyl or Butter of Hog-lice to a pained head, you shall cure the pain. *Gal. Eupor.* 2. 91. and *Abysrtus de quadrup.* Bruised, they cure the Tonfils, and the diseases of the chops, *Dioscor.* A live Chislep laid to a whitloaf, cures it; and it takes away swellings, if it be laid on with a third part of Rosin or Turpentine. *Pliny*. Take Unguent populeon j. ounce, Oyl of Roses wherein Hog-lice have been boyled j. ounce and half, Saffron iv. grains, mingle them and make an unguent, that is a most noble cure for the Hemorrhoids, that swell and are painful. Others (saith *Alexander Benedictus*) boyl these Chisleps with Fat or Butter, then they put to it the yolk of an Egg; and with this they assuage that cruel pain. *Pliny* saith, they cure all hardness of wounds, and Cancers, and Worms in Ulcers, being mingled with Turpentine. And to conceal nothing from you, I thought fit to add, that *Pennius* himself lying sick of the Asthma, used for a long time Hog-lice steeped in Wine: but having done it alwaies to no effect, by my advice at last he did twice or thrice take in the smoke of Brimstone through a tunnel, and he grew perfectly well from that horrid symptome. Take oyl of Violets iij. ounces, wherein let four Chisleps boyl till a third part be consumed: it restrains a salt humour, being outwardly anointed. An incertain Author. Hens, water Lizards, land Frogs, and Serpents feed on Chisleps, as *Theophrastus* writes. *Ambrose Pareus*, a Chirurgeon of *Paris*, relates that one vomited a small living creature like to a Chislep: and such a like thing *Solerius* hath written concerning a certain woman, upon the second Book of *Aetius*.



CHAP. X.

Of Land Scorpions.

IT is called *σκorpion* in Greek, from scattering its venom, or as others wil have it, because it creeps lamely. Also *שׂרפ* signifies a Scorpion, or a kinde of Scorpion, whereof *Nicander* speaks in his Theriacks, the burning Scorpion must be pressed down when he creeps upon his feet, being a deadly creature. It is doubtful whether this be a kinde of Scorpion; it hath legs or clawes, and a sting in the tail. The Latines call it *Scorpius*, and *Pliny* *Scorpio*; *Cicero*, *Plautus*, *Varro*, and *Nonius*, call it *Nepam*, which name *Columella* useth often. In Hebrew it is called *Acrab*, and *Cancrab*, because it pricks those that tread on it. In Arabick it is *Natarab*, *Achrab*, *Necharab*, *Hacharab*, *Acrob*. *Rhasis* calls it

Couches, *Pandaetarius*, *Satscollen*; in Spanish it is *Escorpion*, or *Alacram*; in Italian, *Scorpione*, *Scurdificio*; in High Dutch, English, French, Brabant, it is called a *Scorpion*; in the Slavonian language, *Niedaradeck*; in Illyrium, *Istir*; in Danish, *Wollocow*; in new Hispaniola, *Alacrant*.

But that which hath a bunch on its back and drawes the tail after it rolled up, *Silvaticus* calls *Algararat*. It is an Insect with a body of the fashion of an egg; as it were smoked all over, at the bottome a tail comes forth, joyned with many round knots, the last as it seems longer than the rest, so that only is armed with a simple or double sting, and semething bended backward toward the end: it hath eight feet, and legs forked with claws; and strong pinfers; it hath a head as the others have, lying hid in the top of its brest, wherein you can perceive very small and almost no eyes; that Authors do scarce mention them. All Scorpions have tails, or no tails. Some of the tailed Scorpions are fenced but with one sting, but others with two; yet they do not differ in kinde and nature. *Nicander* describes seven kinds of land Scorpions. The first is white and not deadly. The second (saith he) hath a red mouth, from



whole sting ariseth vehement heat, feaverishness, and intolerable thirst. *Alian* saith the same. The third is wan and blackish, whose sting causeth a shaking palsey, and a Sardonian laughter, and vain, like to that of fools. The fourth is of a colour inclining to green: this so soon as it hath stung a man, a cold and shivering possesseth him, so that in the hottest Summer he will suppose himself covered with frost. This kinde hath many knots between seven or nine, which is also the cause that he wounds so deep, by reason of the length of his tail. The fifth is black and blew, or of a pale colour, of a large stretched out belly, for it feeds on grasse, and is unsatiable. It not only stings with the tail, but also bites with venom'd teeth. *Nicander* calls its poyson *Belopass*, because a Bubo riseth on a man that he stings. The sixth is like to a shore sea-Crab, yet not without a tail, but with a greater body and almost round, so that it represents a Crab with a tail. *Matthiolus* saith that he saw of this kinde some that were black, murrey and green in the County of *Arcinna*, not far from the River *Sarcus*. The seventh is like a Grampel: also it hath claws greater than that; and this kinde is produced by Crevis on the dry ground, that are entred into some hollow places to escape the Fishermen: in which places if they die or corrupt, these kinde of Scorpions grow from them: as *Ovid* most elegantly hath set it down:

Take off the claws of Crabs that use the shore,
And from their bodies with earth covered ore,
A Scorpion grows threatening with crooked sting.

Alian calls this the flame-coloured, for it is like the Crab that becomes red with boyling. There is another kinde of Scorpion which we call *Rhasis*, and the Arabians *Scorpion*, for *Nicander* and the Greeks never saw it: it is very bunchy, and runs swiftest of them all: it hath a tail for its small body that is very great; it seems to be pale, but the sting put forth is very white: *Rhasis* calls it *Fararets*; *Albuchasis*, *Grati*; *Avicenna*, *Algeraratie*. It is found in the Eastern Countreys, especially in *Cora*, and in *Hascari*, as *Gordonius* notes. Philosophers say that the stings of other Scorpions infuse a cold poyson: the Arabians say that only this one, infuseth poyson that is hot. I saw one brought forth of Barbary, and we here give you the picture of it. The sting of all the tailed Scorpions is hollow, whereby they cast poyson into the wound: as *Alian* reports l. 9. c. 4. To which *Pliny* subscribes, lib. 9. cap. 37. and *Nicander* in his *Theriacks*. Yet our *Galen* is of another minde, lib. 6. de loc. aff. c. 5. where he speaks in these very words almost, to those who ascribed a specifical quality of hurting or helping to humours or vapours. But the sting of the Scorpion deserveth much more to be admired, which in a very short time causeth extreme symptoms; and that which is injected when it stingeth, is either very little or nothing at all, there appearing no hole in its sting: And indeed, when we see that from the teeth pricks and stings of some creatures, fishes or plants, there is solid poyson conveyed into the wound by them; what need we fly unto secret bladders, and perchance such as were never seen, that lie hid under the root of their stings, such as fruitful wits have rather invented, than solid judgements and those that were studious for the truth? As I said, they have all six feet, besides the claws that are their fore-legs, as crabs have, (which I should more willingly call arms) some of them (if you look narrowly) are forked: their tail consists sometimes of 6, 7 or 9 knotted joynts: in the end of the tail is one hollow sting, two sometimes, (but that is more seldome). If it had its sting any where but in the tail (saith *Aristotle* lib. 4. *Histor.*) because it moves it self by steps, it were unuseful to sting withall: *Alian* saith, that its sting is very small, and scarce visible: out of whose invisible pipe, if there be any, such a venomous spirit, or moister humour is poured in by a wound made, that is scarce perceived or sensible. It walks side-waies as Crabs do, alwaies moving the tail ready to strike, that no opportunity may be let slip. The Males are the fiercer, slenderer, longer, and more spotted on their bellies, claws and stings. The Females again (as *Avicenna* well observes) are greater, fatter, greater bellies, and milder. The poyson

son of the Male is also more dangerous, as *Pliny* thought, the Female is more gentle; but all their venome is white, unless *Apollodorus* deceive us. It is apparent that they which have seven or nine joints on their tails, are the most curst: many have but six, it strikes athwart and bendingly. All of them have their poyson more violent at noon day, and in Summer, when they are hot with the Sun-beams, and when they are thirsty and are unsatiable for drink. The plague of it seems intolerable, and which with a heavy punishment destroys a man with a lingering death in three daies. Their stinging is alwaies mortal for maids, and most commonly for all women: and for men in the morning, before they have cast out their venome by some accidental stroke, and are new come forth of their holds. It is the property of Scorpions, that they will not sting the palm of the hand nor smooth parts, and no where unless they feel the hair. Scorpions, as *Pliny* supposeth, will hurt no living creature that wants blood: which *Dr. Wolfius* of *Turin* a most learned Physician hath proved to be false: for he saw, as he reported to *Pennius*, a Viper shut up in a vessel with a Scorpion, and they killed one another with mutual bitings and stings. And *Ælian* writes, *l. 8. c. 13.* that they do fight and contend with Vipers, and all kinde of venomous Insects for their meat: *Gesner* saith it is certain that a Viper will devour a Scorpion: and from thence his bite will be the more grievous. Also *Theophrastus* writes that by the sting of Scorpions Serpents will dye, and not men. But *Galen* depending on experience, hath proved it to be false, and appeareth it for a lie. *Pennius* shewes the fraud of *Ælian*, relating, *lib. 6. c. 23.* the wonderful fraud of Scorpions: but since I observed the same in *Italy*, I will maintain the truth of the Author, and free him of it. We know that the skill men have in that Countrey, they employ it all to escape from the Scorpions: whereupon they use sandals to defend themselves, and hang their beds on high from the ground, they place the props or supporters of their beds far from the wals, and set them in vessels full of water, and many other inventions they have to deceive or to destroy the Scorpions. But the Scorpions get up to the roofs of houses, and if they can finde any tyle broken they will remove it, and one of the strongest of their Captains, (trusting to the force of his claws) hangs down by this chink, and his tail hanging down, then another upon his back comes down as by a ladder, and takes hold by the others tail, and a third takes hold of the seconds tail, and a fourth by his tail, and so the rest, until such time as by links they can reach the bed, then the last comes down and wounds one that lies asleep in his bed, and runs back again by the links of his fellowes, and so all the rest in order shift away, unloosing as it were the chain, untill they are all got up again upon one anothers backs. Also *Clem. Alexand. 1. Stromat.* makes mention of this property. But they are not all venomous, nor do they hurt or sting all men alike. For they do not live in *Sicily*, and if there be any there, yet they do no hurt; and therefore the *Pisilli* lost their labour when they undertook to free *Italy* from this mischief that was a stranger to them, in hopes of gain. *Plin. lib. 11. cap. 25.* *Aristotle* writes of the same thing concerning *Pharos lib. 8. Histor. c. 29.* of the Island *Malta*, *Diodorus lib. 4. cap. 3.* of the Countrey *Noricum*, *Joseph. Scaliger, exerc. 189. 5.* where you shall come in no place but you shall finde abundance of them, and yet they either sting not at all, or else there is no danger unto men by it. But now in *Egypt*, *Sicily*, *Africa*, and *Albania*, they wound mortally, as we read in the Books of *Alexander de Alexandro*, *Pliny*, *Dioscorides*, *Strabo*. In *England*, *Scotland*, *Ireland*, and *Gascony*, Scorpions cannot live, nor in the colder Islands more Northward. For though they cannot well bear the heat of the Sun by day, and therefore lie under stones all day; yet it seems they want no less heat in the night, for love whereof they come not only into chambers, but get into feather beds, and lay themselves down sometimes close to those that are asleep. Men report many things concerning the Countrey of *Trent* set free from the deadly sting of Scorpions by the prayer of *St. Vigilius*. But it is at the Readers choise to take it for a Truth or for a Fable. In *Scythia* it is far otherwise, for there if a Scorpion sting a Man, a Hog, or any Beast or Bird, they are certainly killed. *Cardan* saith that such as wound mortally are seldome bred. But *Marcellus* reckons up an army of desperate symptomes that happen there, especially in *Hetruria*, by the stings of Scorpions, sometimes joyned with death. And *Ælian l. 8. cap. 13.* reports that in *Æthiopia* mens lives are not only endangered by the stinging of the Scorpions; but if they do but tread on their excrements, their feet blister, and they can hardly be cured. He calls these Scorpions *Sibrittas*, they feed on Vipers, Blind-worms, Lizards, Spiders, and other venomous Insects: whence they are so forcible with poyson, and have a kinde of graduation (that I may use *Paracelsus*) in the use of it.

Aristotle speaks of some Scorpions in *Caria* that are very loving to strangers. (*Ælian* reports that this is about *Latmus* a mountain of *Caria*, where they are sacred to hospitable *Jupiter*, and do not sting any stranger; or if they do, they do them no great hurt, but they kill the inhabitants presently when they sting them. A Lion whensoever he sees a Scorpion flies from him as from an enemy to his life: witness *Physiologus* and *St. Ambrose* gives credit to it. Men say that such are never stung by Wasps, Hornets, or Bees, who are stung by a Scorpion. *Pliny*. Their Generation is twofold, common by Copulation, more seldome, (so far as we know of it) from Putrefaction. Some maintain that they are not bred by copulation but by exceeding heat of the Sun. *Ælian lib. 6. de Anim. cap. 22.* amongst whom *Galen* must first be blamed, who in his Book *de fet. form.* will not have Nature but chance to be the parent of Scorpions, Flies, Spiders, Worms, Nature of all sorts, and he ascribes their beginning to the uncertain constitutions of the Heavens, Place, Matter, Heat: but doubtless they do copulate, and they produce little worms alive (which I have

have seen) they are white and like to eggs, and they sit upon them to hatch them. So soon as their young are brought to perfection by them, they are driven away by their young, as it falls out with Spiders also, (especially those are called *Phalangium*) and they are destroyed by their young ones in great numbers. Scorpions are fruitful creatures, for oft-times they bring forth eleven. Some also suppose that they devour their young (namely *Antigonus*), but only one that is more cunning than the rest, which hides it self about the dams legs, and so escapes the danger of its sting and biting. This afterwards revengeth the death of all the rest, and kills its parents from above. They bring forth twice a year, namely in Spring and Autumn. The original of Scorpions from putrefaction is more rare, and it is many waies. For they are bred from Crevis corrupted, *Pliny lib. 11. cap. 25.* and from the carcases of the Crocodile, as *Antigonus* affirms, *lib. de mirab. hist. cong. 24.* For in *Archelans* there is an Epigram of a certain *Egyptian*, in these words :

*The carcases of dead Crocodiles is made the seed,
By common Natures whence Scorpions breed.*

L. 10. c. 12.

Aristotle adds further, that from water Mints corrupting, Scorpions are bred. And *Kiramides* and *Pliny* say they breed of Basil. An *Italian* that delighted much in the smell of Basil, a Scorpion bred in his brain, which afterward caused most vehement, and long during tortures, and lastly death. *Hollerius, lib. 1. cap. 1.* of his practise. *Gesner* heard as much of a French maid, as he testifieth with his own hand writing. Doctor *Banchinus* second to none for Anatomy, reported to Doctor *Pennius*, that he hid Basil in a wall at *Paris*, and after a certain time he found two Scorpions in the same place, *Chrysippus* therefore not without cause, dispraised Basil to many men. There are some that maintain that if a man eat Basil the day he is stung with a Scorpion, he cannot escape death. Others say, that if a handful of Basil be bruised with ten sea Crabs or river Crabs, and be left in a place where Scorpions haunt, all the Scorpions will come about it. *Pliny lib. 20. cap. 12.* But *Dioscorides lib. 2. 135.* and *lib. 32. cap. 5.* saith that Crabs will kill Scorpions, if they be put to them with Basil. *Albertus Magn. lib. 19. anim. cap. 18.* Some are of *Avicenna's* opinion that they breed of corrupt wood, and are made many waies.

The place conduceth much to their generation and production. For in *Hispaniola*, the *Canaries*, *Numidia*, *Scythia*, *Pescara*, *Barbary*, *Ethiopia*, there are such multitudes of Scorpions, that the inhabitants are oftentimes forced to forsake their habitations : *Oviedus*, *Thevetus*, *Leo Afer*, *Pliny*. The Countrey about the Lake *Arrhata*, in the *East Indies* near the River *Estamenum*, is so fruitful and so pestered with Scorpions, that the inhabitants not knowing what course to take, left the place to them. *Alian lib. 17. cap. 40.* When you are two daies journey from *Susa* in *Persia* into *Media*, you shall light upon an infinite number of Scorpions, whereupon the King of *Persia* being to ride that way, commands the Citizens three daies before to hunt the Scorpions, and assigns a very great reward for those that catcht most of them. If he should not do so, by reason of the multitude of Scorpions lying under every stone, there could be no passage. *Alian. lib. 15. cap. 26.* The *East Indies*, as *Agatharsis* testifieth, and *Africa* also, breeds abundance and very great Scorpions, which also wound with their stings as the others in *Europe* do. The Scorpions of *America* are the smallest of all, yet the most venomous, next to those of *Africa* : their poyson works so suddenly, that it immediately flies to the heart and kills the party that is stung. The people of *Noricum* near the *Alpes*, have in their Countrey many Scorpions, but (which is wonderful in Nature) they are all harmless, as *Scaliger* affirms. In *Pharos* also, and the Territory of *Avarrium*, the Scorpions (as we said before) do no hurt. In some places of *Helvetia* (as about *Rappiswil*) there are found very small Scorpions, and innocent. *Gesner*. So it is also in some Countreys of *Germany*. In new *Hispaniola* there are a great many Scorpions, but not very venomous ; there is some pain that follows their stinging, but it is not great, nor of long continuance, and men are more hurt by the stings of Wasps or Bees : unless it were so that the Scorpions were fasting, or newly wounded. *Manardus*. But the Scorpions in the Island *Ferrara* (which is one of the fortunate Islands) and *Coptum* in *Egypt*, cause great pain, and their Venome is mortal. In *Castile* a Countrey of *Spain*, the countrey folk oft-times whilest they plough up the ground, do finde innumerable Scorpions, clustered together like *Pismires*, where they lye hid all the winter. *Matthiolus*. The colder Countreys have no Scorpions, as *Gascony*, *England*, *Ireland*, *Scotland*, *Denmark*, and great part of *Germany*, or if there be any there, they are not venomous. *Alian* reports a wonderful thing concerning the Priests of *Isis*, which in *Copto*, a City of *Egypt*, where there are abundance of deadly Scorpions, they can tread upon them, and cast them on the ground, and yet receive no harm by them. Also *Psylli*, a people of *Africa* cannot be hurt nor stung by Scorpions. For when they come to any venomous creature, it presently becomes stupid, as if it were charmed or struck dead, that it cannot move. Also all their Hogs, but not the black ones, (for if they be stung they die presently) are free from their stings. Lastly, a Scorpion nor any other venomous beast, doth not hurt a *Stellio*, an *Ascalabotes*, a Crab, a Hawk, as *Galen ad Pisonem*, and our friend *Gesner* have observed.

Their Food.

Their Use.

They live by eating the ground, and in some places they feed on Herbs, Lizards, Blinde-worms, Whurles, Beetles, and all poysonous beasts. *Alian*. But he that shall tread on the excrements will have his feet blistered. The Hens, Ibis, Vipers eat abundantly of them, whence *Aristotle* calls the Viper *απομύαζος*. And they are not more fit for their food, than they are a remedy for

for us. For being laid to their own wounds they made, they cure them, as is generally known. Their use in
 Also a Scorpion bruised resists the poyson of a Stellio. *Pliny*. Some bruise them and drink Physick,
 them in Wine, casting away their tails. Others lay them on burning coles, and perfume the
 wound, and then strew the Scorpions ashes upon it. Some binde them to the wound, being brui-
 sed with salt, Linseed, and Marsh-mallows. Against the Stone, *Lanfrancus* his powder: Take
 20. live Scorpions, close them in a pot with a narrow mouth, and with a soft fire burn them to
 ashes, which is a wonderful remedy against the Stone: A Scorpion torrifed and burnt to ashes
 and taken with bread, breaks the Stone of the bladder. *Author ad Pisonem*. Three Scorpions
 closed in a new earthen pot, and covering it with a cover well luted, with a fire made of Vine
 branches, bring them to ashes in an oven; the Dose is 6 grains with syrup *de quinque radicibus*:
 it wonderfully drives forth stones of the kidneys. New Authors exceedingly commend the ashes
 of Scorpions amongst the remedies against the Stone, and the oyl of them injected into the bladder,
 and anointed outwardly. *Alexand. Benedictus, Aggregator, and Leonellus Faventinus* out of *Galen* (*Eu-
 por. 3*) teach us to burn three small Scorpions, and to give their ashes in syrup, or a decoction, or
 some confection proper for it, to break the Stone. And *lib. 2.* he bids us to mingle them with fat,
 being calcined, and so to exhibit them; because otherwise the Patients would abhor the eating of
 them, wherefore they may be given without suspicion. That Medicament of *Abolans*, that *Arnoldus*
 praifeth so much, is made of the ashes of Scorpions, as you may see in *2. Breviarii cap. 18.* as also the
 admirable syrup of the King of France against the stone, which is described in the same Book and
 Chapter. *Rondeletius, capite de calculo*, in his practise, maintains that a Scorpion is cold, and
 therefore to drive out the Stone we must use the compound, and not the simple oyl of Scorpi-
 ons. *Matthiolus* teacheth to make that compound oyl, *Commentar. pag. 1407. 20.* But be-
 fore him, *Luminare Mainus*, made that after this manner. Take round Birthwort, roots of
 Gentian, Ciperus, Barks of Capers, of each j. ounce, oyl of bitter Almonds j. Kist, let them stand
 in the sun 30 daies; then add to it 15 Scorpions, and shutting the vessel again very close set
 them in the sun so many daies as before. Then strain the oyl and keep it for your use. Others
 prepare it thus: Take old Oyl as much as you please, put as many Scorpions into it as you can
 take in July (for then are they most venomous and fittest for this remedy) add to them whire
 Dittany, leaves of Wormwood, Betony, Vervain, Rosemary, of each j. handful, set them a sun-
 ning for a long time, then distil them in balneo in a Limbeck. It is called St. Bernards Oyl. It
 powerfully provokes urine. Anointed on the groin, it is prevalent against the bitings of Scor-
 pions, how venomous soever. It drives out worms miraculously. *Brassavolus*. Of Oyl of Scor-
 pions and Vipers tongues, is made a most excellent remedy against the plague, as *Criminus* testi-
 fies, *1. 7.* *Manardus* saith that Oyl of Scorpions is now made with old Oyl, adding many
 medicaments thereto commended against poysons, and it is admirable in the plague, and against
 all venome. I know a man that having only this remedy, made no reckoning of the greatest
 plague; and had not only preserved himself but his servants also, whom he sent to visit people
 that were sick of the plague; and I know very many that escaped only by anointing themselves,
 having drank the most deadly poysons. So sayes *Manardus*. A liniment of Scorpions against
 the plague, and all poysons, is described by *Fumanellus, lib. de cur. pest. cap. 12.* A Scorpion is
 good also against a wound given by a Viper, saith *Galen 1. de simpl. Samonicus* commends them
 highly against pains in the eyes, in these verses:

If that some grievous pain perplex thy sight,
 Wool wet in oyl is good bound on all night.
 Carry about thee a live Scorpions eyes

Ashes of Coleworts if thou do apply,
 With bruised Frankincense, Goats milk, and Wine,
 One night will prove this remedy divine.

If any one troubled with the Jaundies take Scorpions bruised in Wine and Honey, *Galen* saith he
 shall quickly finde help. *Kiranides*, against a Quartan ague, Quotidian, or Tertian, prescribes a
 Scorpion put into a glasse of Oyl about the wane of the Moon, and kept there; and with this
 Oyl anoint the whole body on the joynts, and the soles of the feet, and the palms of the hands,
 very well before the coming of the Ague. *Plinius secundus* saith, that a Quartan Ague, as the
 Magicians report, will be cured in three daies by a Scorpions four last joynts of his tail, toge-
 ther with the gistle of his ear, so wrapt up in a black cloth, that the sick patient may neither per-
 ceive the Scorpion that is applied, nor him that bound it on. But let these superstitions pass,
 and we shall speak something of Antidotes against Scorpions.

First therefore of *Prophylacticks*. Magicians deny that a Scorpion can pass over if he be com-
 passed in with a branch of Turnsole: and the herb laid upon him kills him. *Pliny*. A smoke made
 with Brimstone, Galbanum, and an Asses hoof, drives away Scorpions. *Rhasis*. Take Storax, Arse-
 nick, Sheeps dung, fat of the caul of Sheep, equal parts, dissolve them in Wine, and make a fume
 by the holes of Scorpions. If a Radish cut be put into their holes, they will not come forth. A
 Scorpion burnt is good, the live of an Ass, Sandarach, with Butter or Goats suet to make a
 fume. *Varignana* and *Diophanes in Geopon.* *Rhasis* commends the root of Elecampane carried
 about one. *Macer* writes of Honseck thus:

Preventions
 against the
 stinging of
 Scorpions.

Men say that Honseck hath so sovereign a might,
 Who carries but that, no Scorpion can him bite.

Cure of the
stings of
Scorpions.

If a man anoynt his hand with an herb called *Paris*, or with the juice of the root, he may safely take a Scorpion in his hand. *Flaminius*. Grapes preserve men from the stings of Scorpions, as also Filberds carried in their Purses. *Actius*. Also the seed of wilde Docks either drives them away, or their stinging is not mortall. *Dioscorid*. Who also saith from the *Africans*, that Basil will do the like. Larks spur, and wilde Campions also makes them stupid and attornished: The same Author. And saith he, they report, as long as any man hold Carduus in his hand, a Scorpion will not bite him, or if he do, it will not hurt him. The seed of Wood-forrell drank, preserves one from Scorpions. *Avicenna*. If you lay *Solomons Seal* under you, it keeps off Scorpions. *Isidorus*. And *Pliny* learned from the Inhabitants of *Africa*, that he that carries Radish-root, or Turnsole, or a dried beast like a Lizard about him, Scorpions will not hurt him: So Dittany in smoke, or wilde Mints, or Oyl of Scorpions anoynted about their holes, will keep them from coming into the Chambers. *Rhasis*. But these things will kill them laid upon them: Radish-root chewed, broad leav'd Basil that growes by the water side, Mallowes leaves, black Hellebore, (but the white will quicken them when they are dying, if *Pliny* may be believed) Scorpions grasse, Rose-root, Basil with a red flower, the spittle of a cholerick man fasting. *Rhasis*, *Pliny*, *Avicenna*, *Democritus* in *Geopon*. To cure the sting and wound *Guilielmus de Placentia*, prescribes this in general, namely, to give and apply inwardly and outwardly, presently, good Theriac; then the part affected must be cut, and an actuall Cautey set to it, and the poyson drawn forth with Cupping-glasses. *Galen* bids binde the part above, and to cut off the parts affected. *Gal. 5. de loc. aff. c. 3.* But since that is a very hard and cruel remedy for the patient, I thought fit to write from the Antients what remedies are cures for this wound. You shall first know the stinging of a Scorpion thus: The place is presently red and inflamed, and by turns, (as in an intermitting Ague) waxing cold, and the sick is sometimes better, sometimes worse. He sweats all over, his hairs stare upright, his whole body waxeth pale, his secretes swell, he breaks winde backwards, his eyes run with clammy tears and filth, his joynts grow hard, and he hath the falling of the Tuel, he fumes at mouth, he is drawn backwards by convulsions, and troubled with the Hickop, and sometimes great vomiting, he is quickly weary of labour, he is vexed and troubled with sense of horror, the outward parts of his body are cold, a pricking pain runs over all his skin, sometimes he thinks that hail falls upon him; for *Galen* asking one that was stung with a Scorpion, what he felt, (*3. de loc. aff. c. 7.*) he said he seemed all covered over and almost frozen with hail. *Actius* addes, *μυρμηκων* or warts of the fundament like Ants; after these fainting, then swooning, and finally death. *Actius* writes, that if the lower parts be stung, the groins swell presently, if the upper parts, then the Arm-pits. The wound being now known and viewed, and opened by section, and the generall cure we speak of applyed, whereof Authors are plentifull. *Galen* amongst outward remedies, reckons *Balsamum*, true *Worm-woods*, or the juice of black *Mirtle-berries* anoynted. Also he diversly commends the spittle of one that is fasting, and useth it as a Charm, *lib. 10. Simpl.* And he bids give inwardly the *Balsam with Womans milke*, the *Saphire stone in Powder*, *Assa fetida*, *Scordium*, *Centaury the lesse*, *Rue*, *Castoreum*. Out of *Cassion* the Phisician he commends this: Take *Assa fetida*, *Galbanum*, each alike, make it up with the decoction of *Scordium*, and round Birthwort. The Dose is the big- nesse of a small Nut with hot water. Out of *Andromachus* he commends this, *lib. de Theriac*. Take *Theriac* two drams, Wine four ounces, mingle and drink them.

Dioscorides outward remedies applyed.

Cyprus bruised and laid on.
Amomum used with Basil.
The Milk of the Fig-tree, or the juice of Sage
dropt in, the Scorpion it self bruised.
Sow-thistle beaten.
Succory.
Hawk-wood.
Balm.
Bush-flower.
Mull-berries.
Larks-heels.
The flesh of a Fish called *Smaris*.
The Barbel Fish cut in two.
A Fish called *Lacerta* salted and cut in pieces.
House Mice cut asunder.

Internal remedies from Dioscorides.

Cardamomum.
Juice of Myrtles.
Bay-berries.
Horse or As's dung.
Seed of Campions.
Mullens.

Chamaepitys.
Scorpion-grasse.
Turnsole.
Calamint.
Trifoly.
Scordium.
Lotus rustica. } applyed.
Basil with Barley-flour.
Wheat-meal with Vinegar and Wine.
Marjoram with Vinegar and Salt.
Assa dissolved in Wine.
Sea-water.
Quick Brimstone with Rosin and Turpentine.
Salt with Linseed.
Galbanum made for a Plaister.

Other External remedies out of Avicenna.

Marjoram laid on with Vinegar.
Root of Coloquintida bruised.
Reed roots bruised.
The Shell of an Indian small Nut.
Rams flesh burnt.
Mummie four grains, with Butter & Cows milk.
Decoction of Ameos.

Bras

Bran plaister-wise.
 Wine new boyled.
 Bark of Frankincense.
 The white Thistle.
 White Thorn.
 Pine kernels.
 Dares.
 Figs.
 Mountain Poly.
 Anacardi.
 Ashes of Kaly.
 Wheat Bran boyled with Pigeons dung.
 Salt of Urine.
 Oyl of Wormwood.
 Decoction of Nettles or Chamomile.
 But white Naptha is the principal remedy, laid on hot. It is also good to suck out the venom with ones mouth, unlesse it be first ulcerated, and then to apply such things as inflame, as Pellitory of *Spain*, and Garlick.
 Seed of sower Dock.
 The herb *Phalangium*.
 Daffadil seed and flowers drank in Wine, and also Bramble flowers so taken.
 Parsnip-seed.
 Turnsole.
 Cypress boughs.
 Rue.
 Origanum.

Loveage with black leaves.
 The juice of Dog-fennel } drank.
 Sow-thistle }
 The Decoction of Gentian-root.
 The bark of Birthwort.
 Penniroyall.
 A broiled Scorpion eaten.
 River-crabs raw and bruised, and drank with Asses milk.
 Mans urine drank.

Internals of the same Author.

Juice of Worm-wood with Vinegar.
 Doronicum.
 Cinamon.
 Myrrhe.
 Wilde Saffron-leaves and fruit.
 Citron-seed.
 Mummie.
 Galbanum.
 Roots of Coloquintida and Gentian.
 The *Indian* small Nut eaten, and the Theriac of it.
 The root of Squills eaten, is admirable against the bitings of Scorpions.
 Locusts broiled and eaten.
 Juice of Onions and of Worm-wood.
 Juice of the lesser Centaury.
 Also new boyled Wine helps much.

The Antidote of Anderam, otherwise Braz. the King of Sicily.

Take Castoreum one dram, Scordium two drams, Costmary one dram and half, *Assa fatida* three drams and half, make it up with Honey. The Dose is one dram and half, or two drams with wine.

Another of the same.

Take Birthwort round and long, each one aureus, Cumin-seed three drams, *Assa fatida*, Caraway, Rue-seed, each two drams, Castoreum four drams, make it up with Honey. The Dose is two drams with the hot decoction of Gentian root, or Birthwort, and wine; he gave also two drams of *Assa fatida*, and sometimes three drams, Wood Laurell with Vinegar.

A Medicament of Andro a Greek Philosopher.

Take Rue-seed, live Brimstone, of each six aurei, Castoreum one aureus, *Assa fatida* one aureus and half, Pellitory of *Spain*, liquid Storax, of each one aureus, make it up with Honey. The Dose is half an ounce with Vinegar of the best wine.

Another excellent remedy.

Take Rue-seed one aureus, Castoreum half so much, Birthwort round and long, of each two aurei, roots of Gentian, *Assa fatida*, of each eight drams, (or eight aurei) make it up with Honey. The Dose is one dram and half with pure wine. *The Electuary of Zeno, or Diaruta.* Take *Assa fatida*, bitter Costus and sweet, each five aurei, round Birthwort, Agarick, each two aurei, Castoreum, Cinamon, Aloes, each three drams, roots of Orris, Sarcocolla, each one dram and half, long Birthwort, Gentian, each six drams, make it up with Honey. The Dose is three drams. He commends also the great Theriac of *Andromachus*, *Esdras*, Mithridate, and the *Theriac diateseron*. The description of it is this. Take Gentian, Bay-berries, long Birthwort, Myrrhe, each alike, make it up with clarified Honey. The Dose is one aureus with hot water. *Another against the bitings of Scorpions.* Take seed of wilde Rue, *Ethiopian* Cumin, seed of Trifolie, Minianth, each alike, with Vinegar what may suffice, make a Confection. The Dose is one aureus. *Another.* Take Garlick, Nuts, of each one part, Rue leaves dried, *Assa fatida*, Myrrhe, of each half as much, make it up with milk. The Dose is three drams. *Another.* Take Castoreum, white Pepper, Myrrhe, Opium, of each alike, make Troches. The Dose is three oboli with four ounces of wine. *Another.* Take Opoponax, Myrrhe, Galbanum, Castoreum, white Pepper, each alike, make them up with liquid Storax and Honey. *Another.* Take roots of Coloquintida, of Capers, Worm-wood, long Birthwort, wilde Succory, each alike. Give children one scruple, men one dram, it is of wonderfull vertue in this disease. *Another.* Take green grassewort juice with Cows milk, boyl it like to an Electuary. The Dose is two aurei, they say this helps much. *Another.* Take Opium, seeds of white Hen-bane, make it up with Honey, and mingle it with hotter things to temper it. If any man will have more from *Avicenna*, he shall finde it *Can. 4. Fen. 6. Tract. 3.*

Externall remedies out of Rhafis.

The hot Oyl of Anacardi standing in the shell of an Egge, rubbed in, let the wounded part be first

first bound, then let it loose, and anoynt it with Jefamin Oyl. The third day open a vein, but after meat and sleep. Also anoynt the place with Castoreum, Melanacardium, and Garlick, laying on a plate of lead anoynted with Quick-silver.

Sagapenum applied outwardly heats the wound, and a Weasels flesh laid over it.

Rub the place with a Topaz, and it will be cured.

The wound is bettered by rubbing a Flie upon it.

It may be cured with water from Radish-leaves, and Oyl of Mustard-seed, and Marjoram.

Serapio writes that boyled Butter doth good.

Internals of Rhafis.

Sweat must be procured any way, by external and internal means.

Take Nuts, and Garlick cleansed, of each alike, bruise them.

The Dose is one ounce, and an hour after let him drink wine. Others adde to this a like quantity of dried Rue, Myrthe, and Asa. The Dose is three drams with pure wine.

Another. Take Nigella seed one part, Asa three parts, the Dose is one Trochis, with one ounce of wine.

Another. Let him drink strong Wine till he be almost drunk, and in the morning open a vein.

Another. Take roots of Coloquintida, bark of roots of Capers, Worm-wood, long Birthwort, Endive-seed, of each alike, make a powder. The Dose is one dram, for children one scruple.

Another Theriac against the stings of Scorpions. Take round Birthwort, roots of Gentian, Bay-berries, roots of Capers, Coloquintida, Worm-wood, Swallow-wort, white Briony, each alike, make it up with Honey.

Another. Take Myrthe, Opoponax, Smallage, each one dram and half, white Briony, long Birthwort, Pellitory of Spain, each six drams, seeds of Rue, Gith, Trifoly, each three drams, Gum, Arabick, what may suffice, with Vinegar make Trochis. The Dose is one dram to one dram and half. Another. Take Cloves of Garlick cleansed five drams, Nuts ten drams, Asa one dram, incorporate them well. The Dose is two drams. Another. Take Gentian, Birthwort, Myrthe, bitter Costus, Rue, Castoreum, wilde Mints dried, Pellitory of Spain, Pepper, Gith-seed, Asa fetida, each alike, make them up with Honey, The Dose is one aureus with wine. Also the powder of Eringo root is good with hot water, and the powder of Dodder. Also one aureus of Napellus with water. Ivy and Polium with water are very profitable. If a fever come upon it, open a vein. Asses drie dung drank with wine is very helpfull. Thus much from Rhafis.

External remedies from Albucasis.

Anoynt the place with Oyl of Ben. for many dayes, or Oyl of Jasmin, grinde Euphorbium with it, and Castoreum, or else Castoreum and Garlick ground together, with old Oyl for a plaister.

A Frog cut and laid on is very good. Take old Oyl one pound, Wax four ounces, Euphorbium one ounce, melt it in the Oyl, and anoynt the place with it.

Internals from Albucasis.

Let him drink hot milk from the Cow with wine or Honey. Cinquefoil-seed, and lees of wine, are Theriac in this disease, as also Rocket-seed.

Hiera Anacardina against the stings of Scorpions. Take Pellitory of Spain, Gith-seed, bitter Costus, black Pepper, Acorns, of each ten ounces, leaves of Rue, Asa fetida, roots of Gentian, long Birthwort, Bay-berries, Castoreum, Cassia lignea, Mustard, Melanacardium, of each five drams, make up the powders with Oyl of Nuts, and with juice of Radish-root make it compleat. The Dose is one dram daily, it causeth sweat. The brains of a hen in drink is very usefull.

Haly Abbas brings nothing that is new, but only takes other mens prescriptions. Concerning some Seals (amongst the hundred sayings of Ptolemy) and some fashions for Charms, both he and Kiranides make mention, but a Christian beleeves it not, nor are they worthy to be recorded by him.

Joannitius mightily commends a Plaister with Garlick and Butter, or to anoynt the place with Oyl of Peter, or pure juice of Leeks.

He prescribes to give inwardly of the pith of the greater Spurge four scruples, with warm water.

Rabby Moses prescribes one Sextula of Frankincense with Wine sufficient. Also he exhibits Pigeons dung dried, and finely powdered with Butter and Honey. The Dose is two Sextulas.

Guil. de Placentia bids men give drie or green Marjoram inwardly, to drink it with mans Urine, and to apply it outwardly.

Constantinus 4. Pantechn. lib. commends Hens dung, or the heart applied outwardly, and Pimpernel inwardly, taken with Wine, and powder of Gentian, Cinamon, Centaury.

Averrhois extolls Bezar stone above all, the Dose is the fourth part of an aureus.

Aristoteles mei θαυμασιον ανσινδρον, describes a kinde of Locust that is an Antidote against the Scorpion, which eaten presently cures the stings of Scorpions.

Serapio affirms the root of the male Coloquintida bruised and laid to the wound, that it will take away the pain. He commends inwardly Wormwood, Lettice-seed with Garlick, Mummy two grains, with the decoction of Sampire, and leaves of Laserwort.

Oribasius approves of the Lilly roots, and leaves, bruised and applyed, as also a Plaister of Vervain, and it is thus made. Take Vervain three ounces, Rosin six ounces, Wax, Pitch, of each two ounces and half, Oyl half an ounce, make a Plaister.

Inwardly he commends the ashes of River-crabs with Goats milk, or juice of Agrimony two ounces, with a draught of Wine, or the root of Dragons bruised, with wine.

Actius commends water Calamints and Nip, which some think to be so called because it is an Antidote against *Nepas*, that is Scorpions. He saith, Garden-snails bruised and laid on draws forth the venome; he commends also upright and green Vervain, if it be laid on for a Cataplasm. Also Sheeps dung laid on with Wine. He makes also this Plaister. Take wilde Rue bruised with Vinegar one dram, Wax one dram, Pine Rosin three ounces, make a Plaister, it is admirable against the stings of Scorpions.

Inwardly, he writes that Garden Parsnips cure beyond expectation, be it eaten green or dried, and drank with Wine. Take Castoreum, Lazerwort, Pepper, of each four drams, bitter Costus, Spikenard, Saffron, juice of Centaury the lesse, of each two drams, clarified Honey what may suffice, mingle them. The Dose is the quantity of a Hazel-nut with Wine and water; it drives the Scorpions venome from any part, as *Actius* proved on himself. *Egineta* gives quick Brimstone bruised with a River-crab to drink in Wine.

Nonus bids lay on Licharge or Silver presently upon the place stung, and he commends Brimstone, if it be taken the quantity of an *Egyptian* bean with eight grains of Pepper in Wine.

Anatolius commends this, to sprinkle Crows dung upon the stinging of the Scorpion.

Silvaticus out of *Haly*, commends a Want, or the greater house Mouse laid on, and out of *Serapio*, Pewter powdered and drank.

Orpheus commends Coral in drink, and the stone called *Scorpiodes* laid on with a Garlik-head.

Octavius, *Aretius*, *Horatius*, *Zoroastres*, *Florentinus*, *Apuleius*, *Democritus*, and other Authors of the *Geoponica*, adde but a few things to the Medicaments of the Antients, besides some old wives fables, and enchanted prints that are hatefull to God and man. *Pliny* tells such a fiction, but no man can tell with what reason or credit: If, saith he, one that is stung with a Scorpion get up upon an Asse, with his face toward his tail, he shall do well, but the Asse will suffer.

Myrepsus extolls the herb Flower-de-luce, well bruised, and then drank with Wine or Vinegar.

Quintus Serenus writes thus, and adviseth,

*These are small things, but yet their wounds are
And in pure bodies lurking do most harm, (great,
For when our senses inward do retreat,
And men are fast asleep, they need some charm,
The Spider and the cruel Scorpion
Are wont to sting, witnesse great Orion,*

*Slayn by a Scorpion, for poysons small
Have mighty force, and therefore presently
Lay on a Scorpion bruised, to recall
The venome, or Sea-water to apply
Is held full good, such vertue is in brine,
And 'tis approv'd to drink your fill of Wine.*

Pliny amongst outward means addeth these: Mustard-seed bruised, Pimpernel, roots of Chamaeleon, Sea-weeds, wilde Onions, Hares rennet, Tortoyse-gall, ashes of Hens dung, Colts-foot, and Mullen-leaves: It is exceeding good to purge the body within, very well, with the seed of wilde Cucumber, and *Elaterium*, and then to drink the juice of Lettice, and to drink the dried leaves and stalks in Vinegar.

Ammi drank with Linseed.

Wilde Cumin.

The third kinde of Canila.

Fennel-seed.

Root of Cyprus.

Great Saffron.

Cresses.

Yellow Camomil.

The tender stalks of green Figs.

Bay-berries.

In Wine.

The seed of Hyacinth with Southernwood.

Seeds of Trifoly, and Rocker.

Four oboli of Agarick.

The juice of Jelly-flowrs and Plantain.

The Ashes of River Frogs.

Chamaipythe.

The herb *Nodia*.

Seed of white Thorn.

Flame-coloured Campions.

Arnoldus Villanovanus hath these: Herb *Trinity* cures the wounds of Scorpions, and kills the Scorpions themselves. Let the sick drink one spoonfull of the juice of the root of Dwarf-elder with Wine, and it is an infallible remedy. Take of the roots of Cappars, Coloquintida, Worm-wood, long Aristolochia, Gentian, Bay-berries, Yellow Ben. White Briony, of each alike, make it up with Honey. The Dose is the quantity of a Nut with Wine. *Another*. Take seeds of wilde Rue, Cumin, Garlick, Hazel-nuts, of each one dram, leaves of dryed Rue one grain and half, Myrrhe, Frankincense, each one grain, white Pepper, Opium, each three drams, Opoponax, Galbanum, of each half a dram, make it up with Honey. The Dose is the magnitude of a Bean with Wine. *John Arden* an *English* man; (he was in his time the most skilfull Chirurgion in *England*) after his long practise in *England* and *France*, he affirms he could finde nothing more safe against the sting of the Scorpion, then to draw forth two or three drops of blood hard by the

X x x x

the wound, and presently to anoint the wound with the same blood. *Celsus* saith that those Physicians did some such thing, who were wont to keep the blood they drew forth of the arms of those that were stung. *And this shall suffice for remedies against the stings of Scorpions.*

If any man chance to be bit by *Rhasis* Scorpion, (which we called Bunch't-back) the first day a small pain is perceived, but the second, straightness, heaviness, and sadness is seized on the sick; the colour of the body is divers almost every hour, and changing from green, yellow, white, and red; whence it may appear, that all the humours are infected, the place burns by the confluence of pain, and humour, swooning followes, and trembling of the heart, an acute Fever, and swelling of the tongue, by reason of humours melted and corrupting in the brain, and falling down on the roots and muscles of the tongue: sometimes also the urine is bloody, by reason of the acrimony of the venomous matter, and green choler is cast forth by vomit, also the guts are tormented with a sharp and vehement pain. Almost all symptoms fall upon the nerves that can happen to them. *Rhasis bids cure all these things this way:* First, incision being made on the place, and cupping glasses applyed, burn it with a strong actual cautery, then anoint the wound with the juice of wilde Endive, or with oyl of Roses, Barley water, Juice of Apples, and with all cold things. If the belly be not soluble, make it so with a gentle Clyster, and the juice of Blites, Nitre, and oyl of Violets, and let the patient take this Theriack. Take Opopanax, Myrrhe, Galbanum, Castoreum, white Pepper, of each alike, make it up with liquid Storax and Honey. The Dose is the quantity of a Jujube: the part must be fumed with a piece of a millstone heat, and sprinkled with Vinegar. Also foment it with water of wilde Lettice. The usual Theriack. Take the rind of the root of Capparis, root of Coloquintida, Wormwood, round Birthwort, Hepatica, wilde Dandelion, dried, each alike: make a Powder: the Dose is two drams; also sowre Apples must be eaten. *For pain in the belly:* Let him drink oyl of Roses, with Barley water, Citrals, Gourds, also give sowre Milk. *For trembling of the heart:* Let him take juice of Endive, or syrup of Vinegar, or syrup of Apples, with troches of Camphire, or sowre Milk the same way. *If the wound be afflicted with great pain:* Lay on a Cataplasme of Bole and Vinegar: for a defenative and for a sharp remedy, lay on Euphorbium, or Castoreum, Poly root drank with water, and a Rans flesh burnt, is profitable. *Theriack called Hascarina, first invented in the Province of Hascarium.* Take leaves of red Roses iv. drams, Spodium ij. drams, Citron Sanders ij. drams and half, Saffron j. dram, Licorice ij. drams, seeds of Citrals, Melons, Cucumers, Gourds, Gum tragant, Spike, each j. dram, Lignum Aloes, Cardamon, Amylum, Camphir, each j. dram, most white Sugar, Manna, each iij. drams, with the mucilage of Fleawort and Rose-water, what may suffice, make it up. The people of *Hascarium* was wont to draw blood from the sick (saith holy *Abbas*) almost till they fainted: then they gave sweet milk to drink, and water distilled from sowre Apples. Also they gave sowre Milk in great quantity. Thus the *Arabians* speak of this pestilent kinde of Scorpions that *Nicander* and all the Greeks were ignorant of, and that was too common in the Countrey of *Hascarium*. Now we will speak of Spiders.

CHAP. XI.

Of the Name of Spiders, and their Differences.

The Name.

THE Latine name *Araneus*, or *Aranea*, is in Greek, ἀράχνη, from the slender feet it hath, or from its high gate, from the cobwebs it spins: Others call him μύροχάλην, or *Muscatricem*; *Kiramides*, κίραμιδες; *Hesychius*, σίδην; the Hebrews, *Acabitha*, *Achar*, *Acabish*, *Semamith*; in Arabick, *Sibth*, and *Phibit*, *Aldebabi*, and *Aldebani*, as it is called by *Bellunensis*: the Germans call it *Spinn*, and *Banker*; the English, *Attercop*, *Spider*, *Spinner*; the Brabant, *Spini*, and French, *Araigne*; Italian, *Ragno*, *Ragna*; the Spanish, *Arana*, or *Taranna*; the Slavonians, *Spanauk*; the Polonians, *Paiack*; the Barbarians, *Koatan*, *Kersenati*; *Isidore*, l. 12. c. 12. saith it is called *Aranea*, because it is bred and nourished by the air: a twofold error: for if they live by the air, wherefore are they so careful to weave nets, and catch Flies? and if they were bred of the air, wherefore do they copulate? wherefore do they thrust forth little worms and eggs? but we will pardon the elegant Etymologer, because who makes a custome to play thus with words. There are many of these kindes, and all of them have three joynts in their legs:

*A little head and body small,
With slender feet, and very tall;
Belly great, and from thence come all
The webs it spins.*

The differences.

Now Spiders are venomous, or harmless; of harmless some are tame or house-spiders, those are the biggest of all; others live in the open air, and from their greediness are called hunters or wolves: the smaller kindes of these do not weave; but the greater sort begins his web very sharp and small by the hedges, or upon the ground, having a little hole to creep into, and laying the beginnings of his webs within, observing whilest something shakes the web, then he runs to catch

catch it. The venomous Spiders called Phalangia, are so venomous, that the place they wound will presently swell. These are of two kinds; for some are less, some greater; the less are various, violent, sharp, falacious, and going as it were rebounding, which as we read, are called *Lumax*, or *Fleas*, or *Apes*; others are called *Oribates*, which are found especially on trees in mountains; they are called *Hypodromis*, because they live under leaves. *Gesnerus*. It is a hairy creature, and breeds in the greater trees. The belly of it is moderately with incisions, that the cutting may seem to be marked by thred. *Ælianus*.

CHAP. XII.

Of Spiders that are hurtful, or Phalangia.

IN Italy they know not the *Phalangium*, (said *Pliny*) It is of sundry kinds; one is great like *The difference* to a Pismire, but much greater, with a red head; the other part of his body is black, with of Phalangia white spots running between. The Pismire kinde of *Actius* hath a smoky body, an ash-coloured and descripti- neck, and the back as it were adorned with stars. *Nicander* his ἀργεον; *Actius* calls αὐχον; the on. Latines call it *Venator*; it makes a weak wound and without pain, but yet a little venomous: it is found amongst the Spiders webs, where (like hunters) it catcheth Flies, Bees, Horse-flies, Oxe-flies, and Wasps also, and (unless you will not credit *Lonicerus*.) Hornets too, and it spoils all that the nets can take and hold: that this is the same with *Aristotles Pulex* no reasonable man will deny. It hath a broad round volubilous body, the parts about the neck have an inci-



sion; and there are bred three eminences about the mouth. There is another Phalangium which *Nicander* calls βῆξ; *Actius* βῆξον; *Ælian*, βῆξ; (from the likeness of it to the stone of a black Grape) it is round, and black, and shining, and globe-like, the feet are extreme short, as if they were imperfect, but it moves swiftly: it hath a mouth, but with teeth bred under the belly, and it moves with all the feet at once. Whether *Aristotles* Spider will bite, let the Reader judge. Truly it is not much unlike it, as *Grevinus* rightly conjectured. In this description, *Actius*, *Ælianus*, *Plinius*, do almost agree with *Nicander*. *Ælian* put long feet amiss for small feet, and affirmed it to be only an African creature. *Asclepius*, were the same, unless it were distinguished by certain white stars and lines, that are fat and transparent. Only *Pliny* after *Nicander* made mention of this, as if it had been unknown to *Aristotle*, *Galen*, *Actius*, *Ælian*, *Avicenna*. The blewish coloured Spider is worse than all these, called by *Nicander* μέδνηξ; going on both sides with very long and tall feet: the Scholiast adds δαυδ, that is downy and high, not high downy, as *Lonicerus* translates it. *Pliny* saith hairy with black down, though I can hardly be induced to believe that the blewish Phalangium is hairy with black down. *Nicander* calls that Phalangium δὲ δναι, which others call σφονδύριον, differing only from the red Hornet by want of wings, and is wonderful red. It is held far worse than the blew, though that by only touching doth communicate her venom, and break a crystal looking-glass (saith *Scaliger*) by running over it. There are two kinds of *Tetragnathi*, the worst is with a white line running along the middle of the head, and another across that. The milder or ash-coloured, white on the latter part, is of the same colour, and that makes very broad nets for flies on the walls. *Plin.* and *Hermolaus*. But as *Actius* saith, *Tetragnathus* is one kinde of Phalangium, with a broad body, whitish, with rough feet, it hath two little risings in the head, one upright, the other broad, that it seems to have two mouths, and four cheeks. *Ælian* saith there is a great number of them about the River *Arrhata* in *India*, sometimes deadly to the Inhabitants. In harvest time they are found amongst pulse, (when they are gathered with the hands) some small Phalangia are like to Beetles,

ties, of a flame-red colour; such are those the English call *Twings*, by eating whereof cattel are oft-times killed: Phalangium breeds amongst rees, and in the Peach-tree, they call it *βεγγοναδένις*, by *Nicander* and *Aetius*; κεφαλονέσις, by *Dioscorides*, because it boldly strikes the heads of those that pass by it, when it descends by a thred, or falls down without it. It is a little creature in the shape of a Butterfly Phalana: it goes horridly with the head alwaies nodding, and a heavy belly, it is of a long body and a greenish colour; it hath its sting in the top of its neck, if it light upon any man, it will especially wounds the parts about the head, as *Aetius* witnesseth; it is nourished in the Peach-tree leaves, and hath wings like to some Butterflies: whence the Scholiast would insinuate that this kinde of Phalangium is winged, which no man hath observed yet. *Ponzettus* and *Ardoynus*, deceived by *Rabbi Moses*, suppose it to be *Cranocleptes*, and the Tarantula; *Gilbert* an English man followed this error, in the Chapter of the Tarantula. *Sclerocephalus*, or hard-head, little differs in fashion from the former; it hath a head as hard as a stone, and all the lineaments of its body like those little creatures that fly about candles. *Scoleton* is a long Spider, and varied about the head especially with some spots. There is also a kinde of Phalangium, *Pliny* calls it the downy Spider, with a very great head; which being cut, they say that two worms are found, which bound to women before conception in a crows skin, will keep them from conceiving: and this verue of them will continue for a year, as *Cecilus* hath left it written in his Commentaries. We call the last *Appulus*, and commonly *Tarantulas*, famous by that name, from the Countrey of *Tarentum*, where they are most frequent, it borrows its name, we give you here the picture of it, that was bestowed upon *Pennius* by an Italian Merchant of happy memory; where if you paint the white places with a light brown, and the black with a dark brown, you have the true spotted Tarantula; I know no man yet that described it as it should be. *Ferdinandus Ponzettus* doth saign it to be only with six feet, and *Ardoynus* thinks the same, and saith more, that it hath a long tail. *Rhasis* calls it *Tarantula*, *Sytra*, *Albucasis*, *Alsari*, *Rabbi Moses*, *Aggonfarpa*, *Avicenna*, *Sebigi*, *Gilbert* an English man, *Taranta*; for he followed *Ardoynus*, who made two kindes of Tarantula's, one brownish, as we have pictured it: another Saffron coloured and clear, such as *Egypt* produceth.



Phalangium is not known in *Italy*, as we said out of *Pliny*, but now they are all almost found in the south Countrey, with great inconvenience to mowers, and hunters, as is manifest by daily experience. *Ponsertus* was wonderfully deceived, who in l. 3. c. 15. of the Scorpion, calls Phalangium a venomous Fly. It is a cruel creature (saith *Alexander ab Alexandro*) pestilent to touch. In summer when the sun is very hot, their sting is venomous, at other times not. In the coldest Countreys there are many Spiders, but no Spiders called Phalangia, or if there be any, they are free from all venome and infection. Tarantulae lie hid in the chinks of furrowes that are cleft with heat, and they strike and wound with their teeth mowers or hunters that are not aware of them; wherefore the inhabitants defend their hands and feet, when they go to mow, or to hawk or hunt, she makes her web like a net very silently, and all the little creatures she can catch, she provides for her supper. All the Phalangia bring forth in their net, (that they make thick) and they do as it were sit upon eggs in a great number, and when the young grows up, it embraceth the dam and kills her, and oft-times casts out the sire, if it can lay hold of him, for he helps the dam to sit, and they bring forth 300. *Belonius* l. sing. obs. c. 68. observed little Phalangia in sandy grounds creeping up the Horses legs, (may be that is it the Germans call *Stein spinnen*) by whose continual bitings they suddenly fainted, and staggering continually they consumed. *Basilius* saith that there are ten kindes of Phalangia, but he describes them not. *Avicenna* (I know not out of what Book of *Galen*) divides the Spiders Phalangia into the Egyptian, the black, the bright red, that men call *Raches*, the white, Citron coloured, Grape coloured, Pismire-like, like *Cantharis*, Waspy, and mountainous. But both he, and all the Arabians describe them so foolishly (to say no more) that there can be nothing more confused in so great a matter. Lastly, to add all the kindes of Phalangia which we have seen or read of. I shall annex the *Cretian Phalangium*, you have here the picture of it exactly printed. It is of colour brown and ash-coloured, a smooth body, and hairy legs: near the mouth it is fenced as it were with two hooked prickles, with which it bites and wounds. It lives as the Spiders do by Flies & Butterflies, & makes nets to catch them: she laies eggs, and fosters them under her breast, whence the young ones are thrust forth, which stick under the dams belly, till growing elder they kill her. They dig a hole fit for the bigness of their body; for as they are not every where of one colour, so they are not of the same magnitude. They dwell in a cave two foot deep, and on the outside they cover it with straw that the dust get not in. All these venomous Spiders are naturally so, for they suck not their poyson from herbs, (as some think from their



their likeness) for they do not so much as taste of them, nor yet from the malignity of their food. For they feed principally on Flies, Gnats, Bees, and they suck no ill humours from them.

Grievous symptoms follow the bitings of Pismire Phalangium, for there follows a mighty swelling on the part bitten, the knees grow weak, the heart trembles, the forces fail, and oftentimes death succeeds. *Nicander* saith that the sick sleep so deeply, that they are alwaies asleep at last, and are in the same condition as those are that are stung by the Viper: Histories relate that *Cleopatra* set one to her breast, that she might escape *Augustus*, without pain, nor is the wound deadly unless it be wholly neglected. *Rhagium* makes a very small wound, and that cannot be seen, after it hath bitten: the lower parts of the eyes, as also of the cheeks wax red, then horror and fainting seize on the loyns, and weakness on the knees, the whole body is very cold & hath no heat, and the nerves suffer convulsion from the malignity of the venome. The parts serving for generation are so debilitated, that they can hardly retain their seed, they make water like to Spiders webs, and they feel pain as those do are stung with a Scorpion. From the sting of *Asterion*, men seem wholly without strength, their knees fail them, shivering and sleep invade the patient. The blew Spider is worst of all, causing darkness and vomitings like Spiders webs, then fainting, weakness of the knees, Coma, and death. *Dysderi*, or Wasp-like Phalangium, causeth the same symptoms with the blew, but milder, and with a slow venome brings on putrefaction. Where the *Tetragraphii* bite, the place is whitish, and there is a vehement and continual pain in it, the part it self growes small as far as the joynts. Lastly, the whole body findes no profit by its nourishment; and after health recovered, men are troubled with immoderate watchings. *Aetius*: *Nicander* denies directly that the ash-coloured *Tetragnathon* can poyson one by biting him. The *Cantharis* like, or pulse Phalangium raiseth wheals, which the Greeks call *φουκλαίνας*, the minde is troubled, the eyes are wrested aside, the tongue stammers and fails, speaking things improperly, the heart is as it were moved with fury, and flies up and down. The *Vetch kinde* produceth the same mischiefs, and cause Horses that devour them, and cattel to be very thirfty, and to burst in the middle. *Cranocalaptes*, saith *Pliny*, if it bite any one, death followes shortly after. But *Aetius* and *Nicander* affirm the contrary, and that the wound thereof is cured without any trouble almost at all. Head-ache, cold, vertigo, restlessness, tossings, and pricking pains of the belly follow, but they are all asswaged (saith *Nicander*) by fit remedies. *Sclerocephalus*, is like to this in form, and forces and effects the same things, as also the *Scolecium*. We said that the downy Phalangium drives away barrenness, if it be carried about one, but whether it be violently venomous, I know no man that hath determined it. The spotted or Phalangium of *Apulias* doth produce divers and contrary symptoms according to the complexion of him that is wounded, and his present disposition. For some laugh, some cry, some speak falteringly, others are wholly silent, this man sleeps, the other runs up and down alwaies waking; this man rejoiceth, is merry and moves up and down, that is sad, slothful, dull; some think themselves to be Kings, and command all; some are sad, and think they are in captivity, and fettered: lastly, as men drunk are not of one quality: so are these that are mad, some are fearful, silent, trembling; some are bold, clamorous, constant. This is common to them all, to delight in musical instruments, and to apply their mindes and bodies to dancing and leaping at the sound of them. Lastly, when by continuance of the disease and the vehemency of it, they seem next unto death, yet when they hear musick they recollect their spirits, and they dance with greater chearfulness every day. These dancings being continued night and day, at length the spirits being agitated, and the venome driven forth by insensible transpiration they grow well. But if the Musicians upon any cause do but leave off playing, before the fuel of this mischief be spent, the sick fall into the same disease that they were first oppressed with. We must admire this most, above other things, that all those that are stung with the *Tarantula*, dance so well, as if they were taught to dance, and sing as well as if they were musically bred. (In *Italy* it was first invented, and custome hath taken it up to call such as are bitten, *Tarantati*, or *Tarantulati*.) *Cardanus* against faith and experience, denieth that musick can restore any that are bitten; yet we heard the same thing fell out at *Basil*, from *Felix*, *Platerus*, *Theodore*, *Zuingerus*, our most famous, and dear Masters, and we read the same in *Matthiolus*, *Bellunensis*, *Ponzettus*, and *Paracelsus*. And if the sweet musick of pipes could help mad horses, and pains of the hips, (as *Asclepiades* writes) why may it not help those are stung with a *Tarantula*? Somewhere are that assign to this disease, some I know not what small deity, as superintendent over it: they call him *St. Vitus* that had formerly great skill in singing, he being called upon and pacified with musick, as he is the parron of musick cures them, so that men superstitiously impute that to him, which they should do to musick and dancing. *Bellonius* reports that the *Cretian* Phalangium induceth the like mischiefs, and the pain and wound of it is also cured by musick. It is no wonder the Ancients described not these two kinds of Phalangia, because they knew them not, nor did they shew the waies how to cure their stings. *Dioscorides* writes thus of the common bitings of the Phalangia. The symptoms that follow their bitings are commonly these: The place stung looketh red, but neither swells, nor waxeth hot, but it is something moist; when it growes cold, the whole body quakes, the hams and groins are stretched out, there is a collection made in the loins, they are often urged to make water, and they sweat with very great pain, and labour to go to the stool, and cold sweat runs down every where, and tears trickle down from their darkned

This is the
sense of *Galen*,
but not the
same words.

darkned eyes. *Actius* adds further: They are kept waking, they have frequent erection of the yard, their head pricks, sometimes their eyes and their legs grow hollow. Their belly is unequally stretched out with winds, and their whole body swells, chiefly their face, their gums, their tongues, and tonsils, they bring forth their words foolishly and gaping, sometimes they are troubled with difficulty to make water, they are pained in their secrets, they make urine like water and full of cobwebs. The part affected is pricked and swells, (which *Dioscorides* denied before) and it is moderately red. So saith *Actius*, from whom *Paulus*, *Actuarius*, *Ardoynus*, differ but little. *Gal.* 3. de loc. affec. c. 7. hath it thus. The bitings saith he of the Phalangia are scarce to be seen: it first affects only the skin, and from the superficies of it, it is carried by the continuity of the fibres to the brain, and into the whole body: for the skin comes from the membranes, and they from the nerves and the brain; this is clear, because by presently binding of it on the farther parts, they are preserved from the venome that is near to them. In *Zacinthus* they that are bit by the Phalangia are otherwise affected, and more grievously, in other parts: their body is astonished, weakened, trembles, and is very cold: vomiting and convulsion followes, and inflation of the yard: their ears are afflicted with most cruel pains, and the soles of their feet. They use bathing for a remedy; if the party recovered go willingly into bathes afterwards, or were by chance or by craft brought into them, by the hot water the contagion passeth over the whole body, and he perceives the same mischief in the whole body. *Dioscorides* writes the same things in the chapter concerning Trifoly that smells like Asphaltum. The decoction of the whole plant easeth all the pain by fomentation, where Serpents have stung men, what man soever that hath ulcers and washeth himself in the same bath, is so affected, as he that was bit by a Serpent; *Galen* saith he thinks it is done by a miracle, *Lib. de Theriaca ad Pisonem*, if *Galen* did write that Book. But *Alian* speaks more miraculously, where he affirms that may happen to those that are sound, making no mention of ulcers. And thus much for symptoms. Now for the cure.

The cure,

The cure is particular or general. Physicians speak of but a few particular cures, because the general is commonly effectual.

But *Pliny* sets down a remedy against the biting of the Phalangium called *Formicarium*, that hath a red head: to shew another of the same kinde to him that is wounded, and they are kept dead for this purpose. Also a young Weasel is very good, whose belly is stuf with Coriander, kept long and drank in Wine. A Wasp, that is called *Ichneumon*, bruised and applied, drives back the venome of the *Phalangium Vesparium*, (saith *Bellonius*) not otherwise than as one living kills another, that is alive. For *Ichneumon* (saith *Aristotle*, is a small creature that is an enemy to the Phalangia; it often goes into their holes, and goes forth again, losing its labour. For it is a matter of great labour for so small a creature to draw forth its enemy greater than it self by force; but if he light upon his enemy preying abroad, he drags the Phalangium as easily with him as a Pismire doth a corn; and the more stiffly he drawes himself back, the Wasp draws him on the more fiercely, and sparing no pains, doth bestir himself with all his might; sometimes when he is tired with too much labour, he flies away and breathes himself, and having recovered breath, he goes to seek for the Phalangium again, and striking him often with his sting, at last he kills him; when he hath killed him, he carries him into his own habitation on high, and there it renews its kinde by sitting upon them. Those whom the Tarantula strikes, are helped by violent and constant motion, but *Celsus* on the other side commands those that are stricken by the other kindes of Phalangia, to be quiet and to move but little. But musick and singing are the true Antidote of it. *Christophorus de honestis*, bids presently exhibit *Theriaca Andromachi*. Also he gives Butter and Honey, and Saffron root with Wine. The Bezar of it are the green grains of the Mastick tree. *Ponzettus lib. de venen.* perswades to give ten grains of Mastick with Milk, or juice of the leaves of Mulberries, j. ounce and half. In the augmentation he cureth it with Agarick of white Briony, after sweating much they must be refreshed with cold and moist things, as with Poppy-water. *Mernula* saith they are cured with singing, dancing, leaping, and colours; I will not contend for the first three, but I cannot see how they can be cured with colours, especially when as they that are stung are blinde, or see very little. He saith also that inhabitants and citizens are hurt by them, but strangers are safe and out of danger, which no man of a smal belief, or not very great faith can believe. *Dioscorides* appoints a general cure: First, scarifying must be repeated, and cupping glasses set on with a great fire. *Absyrus* counsels to fume the part stricken, with the shels of Hens eggs first steeped in Vinegar, and burned with Harts-horn, or Galbanum.

Then you must use scarification, and draw fourth the blood by sucking or cupping glasses. Or, which is safest, burn the place affected with an actual Cautey, unless it were full of nerves; for then it is best to set a Cautey on the neighbouring parts. Then sweat must be provoked with clothes laid on, or rather by gentle and long walking. Lastly, to perfect the cure, you must prove by external and internal Medicaments, such as we here set down, and the most commendable and most noted we mark with an Asterisk. Internal remedies out of *Dioscorides*: Take seeds of Southernwood, Anniseed, Cummin seed, Dill, round Birthwort, wilde Cicers, Cedar fruit, Plantain, Trifoly, seed of Minianthes, each alike, bruise them severally; the Dose of them severally is ij. drams in Wine, but if you joyn many of them together, drink ij. drams or iv. with Wine: also j. dram of the fruit of Tamarisk is effectual, with Wine. Chamepithy, and the decoction

decoction of green Cyprus nuts with Wine. * Some prove of the juice of River-crabs with Asses milk and Smallage-seed, and they promise it shall presently take away all pains. Also a Ly of the Fig-tree is drank against the bitings of the *Phalangia*: also it is good to drinke the fruit of the Turpentine tree, Bay-berries, Balm-leaves, the seeds of all the wilde Carrots, and of Coriander, the juice of Myrtle-berries, Ivy, Mulberry, Cabbage and Cliver-leaves, with Wine or Vinegar, one dram of the leaves of Bean Trifoly drank with Wine.

Decoction of Sparagus root, juice of Houfleeke, juice of Clivers with Wine. He also commends a Snail bruised raw, and drank with Asses milk. * Also Balm-leaves with Nitre, and Mallows boyled with the roots, drank often. The leaves, flowers, and seeds of the herb *Phalangium*, and the seed of Gith, the Decoction of Asparagus, Mock Chervil, and the juice of Mullberries.

Out of Galen.

Take Birthwort, Opium, of each four aurei, roots of Pellitory of Spain three aurei, make Trochis as big as a Bean; the Dose is two Trochis with three ounces of pure Wine. The ashes of a Rams hoof drank with Wine and Honey. The remedies of *Diophrantis*, against the bitings of the *Phalangia*. Take Birthwort four drams, Pellitory as much, Pepper two drams, Opium one dram, make little Cakes as big as Beans, take two, with two Cyathi of the best Wine.

Another that is better. Take seeds of wilde Rue, Rocket-seed, Pellitory, Storax, quick Brimstone, each six drams, Castoreum two drams, mingle them, make Trochis as before with Snails blood; the Dose is three oboli in Wine. *Another.* Take Myrrhe, Castoreum, Storax, each one dram, Opium two drams, Galbanum three drams, Anniseed, and Smallage of each one acetabulum, Pepper thirty grains, make it up with Wine. *Another.* Take Myrrhe five drams, Spike of Syria six drams, flowers of the round Cane two drams and half, Cassia four drams, Cinnamon three drams, white Pepper one dram and half, Frankincense one dram and one obolus, Costus one dram, make it up with *Athenian* Honey; the Dose is the quantity of a Hazel-nut with water, or with Honey and water. *Apollodorus* * remedies. Take wilde Cumin one acetabulum, blood of a Sea-tortoise four drams, rennet of a Hinde or Hare three drams, Kids blood four drams, make them up with the best Wine, and lay them up; the Dose is the quantity of an Olive, in half a Cyathus of Wine. *Another.* Take seed of bituminous Trifoly, round Birthwort, seeds of wilde Rue, Tare-seed dried in the Sun, each six drams, drink them in Wine, and make Cakes, four drams weight; the Dose is one Cake, *Gal. 2. de Antid.* where he hath collected many remedies from Authors.

Out of Aetius and Aegineta.

Take quick Brimstone, Galbanum, each four drams, bitter Almonds blancht, juice of Laserwort two drams, of Asa four drams, mingle them with Wine and Honey, and drink them, also lay them on thus. *Another.* Take Ameos two drams, Flower-de-luce one dram, or of St Johns wort, or bituminous Trifoly, drink them in Wine. Or take Anniseed, wilde Carriot-seed, Cumin-seed, Gith, Pepper, Agarick, each one dram, drink it. Or take leaves of Cyprus-tree, or the Nuts bruised in Wine and Oyl one Hemina, and drink it.

For this end he prescribes Bay-berries, the herb Scorpions grasse, Serpenter, Laserwort, Calamint, Chamapitha, by themselves, or with Rue and Pepper. *Another.* A bunch of Mints boyled in fresh Posca, let the sick drink two Cyathi: Also Germander, Chamapithy, white Thorn, and Penitoyall in decoction are good. Also a Ly, and juice of Ivy with Vinegar. *Asclepiades used these.* Take seed of Sphondylium dried, Calamint, each alike, bruise them, and drink often in a day two Cyathi of Wine with them. *Another.* Take juice of Laserwort, Daucus-seed, dried Mints, Spikenard, each alike, make it up with Vinegar; the Dose is one dram: take it with Posca and Wine, four Cyathi, and presently go into a hot Bath; when Laserwort is wanting, take the double portion of pure Asa.

One that is better. * Take of Cenchryus, seeds of wilde Rue, Pepper, Myrrhe, wilde Vine, of each one dram and half, Cyprus root one dram, make a Confection; the Dose is one dram, with four Cyathi of Wine, and one Cyathus of Honey. Also the eating of Garlick is good, as also a Bath and Wine, and such things as help against Vipers stings. *Paulus* repeats the same remedies, and *Theban* Cumin, or seed of *Agnus Castus* or leaves of the white Poplar-tree drank in Beer are very effectual.

Out of Nicander. Rosin of the Turpentine tree, Pine or Pitch-tree, drank or swallowed, is exceeding good, which *Gesner* and *Bellonius* say they learned by experience, to be true.

Out of Avicenna. The Myrtle-tree and the fruit of it, *Doronicum*, Mastick, *Assafoetida*, Dodder and its root, the Indian Hazel-nut (which is *Theriac* for this disease) white Bdellium, all of these drank with Wine. Take roots of Birthwort, Flower-de-luce, Spike Celtica, Pellitory of Spain, Daucus, black Hellebore, Cumin, root of Daffodil, leaves of Winter Wheat, leaves of Dogs-tooth, Pomegranate tops, Hares Rennet, Cinnamon, juice of River-crabs, Storax, Opium, *Carpobalsamum*, of each one ounce, beat all to powder, and make Troches, the weight of one aureus, which is the Dose of them. Also give in Wine the decoction of the leaves of bituminous Trifoly, of the Cyprus Nut, Smallage-seed. Moreover give to drink, Pine kernels, *Ethiopian* Cumin, leaves and rinde of the Plane-tree, seeds of Siler Montanum, black wilde Chiches, seed of Nigella, Southern-wood, Dill, Birthwort, fruit of the Tamarisk, for all these are very good. Also the juice of wilde Lettice and Houfleeke are commended.

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The decoction of Cyprus Nuts, especially with Cinamon and River-crabs juice, and juice of a Goose: Also the decoction of Sparagus with Wine and water.

Another. Take Birthwort, Cumin, each three drams with hot water: *An approved Theriac.* Take Nigella seed ten drams, Daucus, Cumin, each five drams, Cyprus roots and Nuts, each three drams, Spikenard, Bay-berries, round Birthwort, *Carpobalsamum*, Cinamon, Gentian, seeds of Siler Montanum, and of Smallage, each two drams, make a Confection with Honey; the Dose is the quantity of a Nut with old Wine. *Confection of Assa.* Take *Assa fetida*, Myrthe, Rue-leaves, each alike, make it up with Honey; the Dose is one or two drams with Wine.

Out of Absyrus, Lullus, Albucasis, Rhafis, Ponzettus. Take white Pepper thirty grains, with a draught of old Wine, take it often. Also Thyme is given in Wine. *Abysrus.* Drink upon it one spoonfull of Wine distilled with Balm. *Lullus.* Take dry Rue, Costus, wilde Mints, Pellitory of Spain, Cardamum, each alike, *Assa fetida* one fourth part, Honey what may suffice, mingle all, and make it up; the Dose is the weight of an Hazel-nut in drink. *Albucasis.* A Hens brain drank with a little Pepper in sweet Wine or Posca. The decoction of Cyprus-nuts with Wine. *A Theriac against the bitings of Phalangia.* Take Tartar six drams, yellow Brimstone eight drams, Rue-seed three drams, Castoreum, Rocket-seed each two drams, with the blood of the Sea-tortoise, make an Opiate; the dose is one dram with Wine. *Another.* Take Pellitory of Spain, round Birthwort, each one part, white Pepper half a part, Horehound four parts, make it up with Honey; the Dose is one dram. *Another.* Roots of Capers, long Birthwort, Bay-berries, Gentian root, each alike, drink it with Wine. Or drink Diasia with strong Wine, and Cumin, and Agnus Castus seed. *Another.* Take Nigella seed ten drams, Daucus, Cumin, each five drams, wilde Rue-seed, Cyprus Nuts, each three drams, *Indian Spike*, Bay-berries, round Birthwort, *Carpobalsamum*, Cinamon, Gentian root, seed of bituminous Trifoly, Smallage-seed, each two drams, make a Confection with Honey; the Dose is the quantity of a Nut with old Wine. *Rhafis.*

Out of Pliny, Celsus, Scaliger.

It is good for those that are bitten by the *Phalangium* to drink five Pismires, or one dram of the *Roman* Nigella seed, or black berries with Hypocistis and Honey. Also Marsh Smallage and wilde Rue, are peculiar against the bitings of the *Phalangia*: Also the blood of the Land Tortoise is good, juice of Origanum, the root of Polymonia, Vervain, Cinquefoil, the seed of Garden Onyons, all the kindes of Housleek, roots of Cyprus, Turnsole with three grains of juice of Ivy-root, in Wine or Posca; also Castoreum two drams, in Mulsum to cause vomit, or in juice of Rue to stop it. Also Agnus Castus seed two drams: *Apollodorus* that followed *Democrates*, calls a kinde of herb *Crocides*, by the touch whereof *Phalangia* die, and their force is abated; the Mat-rush-leaves next the root, eaten do profit. *Pliny.* Take wilde Vine-berries, Myrthe, each alike, drink them out of one Hemina of sod Wine. Also the seed of Radish, or root of Damel must be drank with Wine. *Celsus.* But amongst many other remedies that are proved, one Antidote is due to *Scaliger*, who was the ornament of our world and age; the form of it is this. Take true round Birthwort, Mithridate, each two ounces, *Terra Sigillata* half an ounce, Flies living in the flowers of *Napellus*, 22. Citron juice what may serve turn, mingle them. For saith he, against this venome or any other bitings of Serpents, Art hath scarce yet found out so effectually a remedy. *Scaliger.* Juice of Apples drank, or of Endive, are the Bezar against the bitings of the *Phalangium*: *Petrus de Abano.* These are the most approved outward remedies. Five Spiders putrefied in Oyl and laid on, Asles or Horse dung anoynted on with Vinegar or Posca: Take Vinegar three sextarii, Brimstone a sixth part, mingle them, foment the place with a sponge, or a bath, the pain being a little abated, wash the place with much sea-water: Some think that the stone Agates will cure all bitings of the *Phalangia*, and for that reason it is brought out of *India* and sold dear. *Pliny.* Fig-tree ashes with Salt and Wine, the root of the wilde Pannace bruised, Birthwort and Barley-meal impasted with Vinegar, water and Honey and Salt for a fomentation. Decoction of Balm, or the leaves of it made into a Pultis and applyed; we must constantly use hot Baths. *Pliny.* Open the veins of the tongue, and rub the places swolne with much Salt and Vinegar, then provoke sweate diligently and warily. *Vigerius.* The practically men mightily commend the root of Panax Chironia. *Theophrastus.* Anoynt the wound with Oyl, Garlick bruised, or Onyons, or Knot-grasse, or Barley-meal with Bay-leaves, and Wine, or Wine Lees, or wilde Rue, lay it on with Vinegar for a Cataplasme. *Nonus.* Take live Brimstone, Galbanum, each four Denarii, *Lybian* juice and Euphorbium, each alike, Hazel-nuts pild, each two drams, dissolve them in Wine, and with wine make a Cataplasme, also inwardly it helps much. Flies bruised and laid on the part affected. Also a Barbel heals the bites of a venomous Spider, if it be cut raw and applyed to it. *Galen.* Anoynt all the body with a moist liquid Oyntment with wax. Foment the part affected with Oyl, wherein bituminous Trifoly hath been soaked, or with a Sponge and hot Vinegar, very often. Make also a Cataplasme of these that follow, namely, with Onyons, bloodwort, *Solomons* seal, Leeks, Bran boyled in Vinegar, Barley-meal, and Bay-leaves, boyled in Honey and Wine. Make them also with Rue, Goats dung with Wine, Cyprus, Marjoram, and wilde Rue with Vinegar. *Asclepias his Plaster.* Take seed of wilde Rue, Rocket-seed, Staves-acre, of Cenchrus, Agnus Castus, of Apples, Nuts, of leaves of Cypress, each alike, bruise all with Vinegar, and with Honey make a Plaster. *Actius.* Lay the decoction of Lupines upon the place affected, the Eschar being first taken away, then anoynt

anoynt it with Goose grease, wilde Rue, and Oyl in the hot Sun or by the fire, or make a Cataplasme of Barley-pap, and broth of Lupines. *Oribasius*. An Indian Hazel-nut smeared on cures the bitings of the *Phalangia*: Oyl of Worm-wood, and the milk of Figs anoynted on, doth profit very much. *Avicenna*. Of hot ashes, Figs and Salt with Wine make a Plaiter: Also it is convenient to hide a great boll in sand or hot ashes, and by that means to sweat with Antidotes. *Rhazes*. Goats dung must be dissolved with the Pulstules, and laid to the part affected. *Kiraniides*. Lay on often cold Iron. *Petrus de Albano*. Foment the place with juice of Plantain daily. *Hildegard*. Oyl of artificiall Balsam is exceeding soveraign. *Euonymus*. A Fomentation of the branches and stalks of Masterwort must be continued, or let him drink Ver-vain with Wine, and lay it on outwardly, first bruised. *Turneser*. Bruise Rue with Garlick and Oyl and lay it on. *Celsus*. You shall lastly finde divers such remedies in *Pliny* and *Dioscorides*, so digested into order, that they rather require our silence, than our curious, and unusefull repetition. Of this therefore thus far.

Now let us see

That Spider with which our mindes well agree,

Who sits within the midst of's Net to watch

Where the East winde blowes, it shakes, he doth catch

Flies that but touch his Web, none can him match.

CHAP. XIII.

Of the tame or house Spider.

Amongst Insects, though many may be found (as *Pliny*, *Calius*, *Curio* the second, out of whom we have fetched many of these things, say rightly) that may exercise great wits, yet the nature of Spiders is worthy to be admired in chief, and is apparent by their curious working, as any reasonable man will judge. *Aristotle* the greatest diver into Nature, saith that this is the most magnificent, and wisest of all Insects. And *Solomon* himself at whose wisdom all the world admired, amongst those four Animals that exceed Philosophers for their knowledge, reckons up the Spider, dwelling as he saith in Kings Palaces, and weaving Webs that man cannot do the like. The Poets saign that the Spider was once a *Lydian* Mayd, that *Minerva* had taught to work with the needle, and weaving all curious artificiall work: But she was grown so proud of this skill, that she denyed that ever she learned this of *Pallas*, and she proceeded so farre in arrogancy, that she boldly challenged *Minerva* to work with her in all these Arts: Wherefore *Pallas* disdainig her pride, came, and sharply rebuking the Mayd for her insolence, brake all her fine wrought works with a Wand: At this the Mayd was sore abashed, and thought to have hanged her self; but the Goddess pitieing the poor Maids condition, would not suffer her to do so, but as she hung by a very fine Cord, she changed her shape into a Spider.

Pallas was angry, and in wrath she said,

Yet live and hang thou proud and haughty Mayd,

And that thou mayst still suffer 'tis my minde,

The same Law lasts for thee and for thy kinde.

But they that interpreted this a Fable or a History, say that *Arachne* found out the art of spinning, sowing, and weaving hemp, taking pattern by the Spiders. And this needs not seem strange to any man, since the Swallowes found out the Art of plaistering, and for Oculists, Eagles for building, *Hippotamus* for letting blood, *Ibis* for giving Glysters, Goats for Antidotes, so Tortoises, Weasels, Storks have instructed us.

To praise the Spider as I ought, I shall first set before you the riches of its body, then of its fortune, lastly of its minde. If you consider the matter of it, it is light, partaking much of Air and Fire (that are the most active and noblest Elements) but it hath little of earthly dregs and gravity. Consider the figure it is wholly round and orbicular, or at least Ovall, that is next unto it. The substance of it is thin, transparent, subtile, and though sometimes by the abundance of plunder and prey, it becomes so cram'd, that it growes as great as a Walnut, and (if *Cardan* erre not) as great as a Sparrow sometimes, yet if you see it hanging in its Web, against the light, it shines all through like a *Chrysolite*, and makes reflexion of beams most gratefull to the eye. It hath the same colour that *Ovid* writes that Lovers have, that is, pale; and when she sticks aloft with her feet cast every way, she exactly represents a painted Starre. As if Nature had appointed not only to make it round like the Heavens, but with rays like the Stars, as if they were alive. The skin of it is so soft, smooth, polished and neat, that she precedes the softest skind Mayds, and the daintiest and most beautifull Strumpets, and is so clear that you may almost see your face in her as in a Glasse; she hath fingers that the most gallant

The praise of
the house Spi-
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gallant Virgins desire to have theirs like to them, long, slender, round, of exact feeling, that there is no man, nor any Creature that can compare with her: she hath feet not numberlesse, as the Scolopendra, nor is she without feet, as some Insects are, nor hath only six feet, as those that want wings have, but eight feet, which number is next to the most perfect number, as all men know. These legs also are made in a sesquiterciall proportion, which is most admirable and venerable; so that though the latter feet be alwayes shorter then the former, yet they hold still their proportion. Many Philosophers who hold that Spiders are blinde, are blinde themselves, for were they blinde, how should they make choice of those places that are most convenient for to pitch their nets, and who should lead them to fasten one thred to another, and should know how to mend their Webs when they are broken by accident? when as also the tame and familiar Spiders will come from a distance to catch a Flie that toucheth but the sides of their threds, they are the more bold to pursue them, and will take them as it were from hand to hand, as we have often seen. Truly they are blinde at noon-day, and understand nothing, who say, that Spiders are blinde. In this Spider there is no poyson nor hurt, for if it bite it is without harm, and it is rather tickling then painfull. Also their very Carkases, and their bodies, their eyes, their excrements, are good and usefull for many diseases, as we shall make it plain enough when we speak of their use. I know not what it was that made *Pennius* so frighted when he thought of eating them; for he knew a Noble *English* Lady, and *Phaernus* a Physician, that did often eat them without any hurt at all. For the truth is, Spiders are free from poyson, and are very good for ones health. But because it seems so horrid a Creature to some people, that the very sight of it makes them fly from it, I rather attribute that to their melancholy apprehension, tendernesse and distemper, than to the ill form of the Spider. Nature hath used no lesse elegancy and bounty in the Spider, then she hath done in the Butter-fly, and Flie, and it is no light disease of the minde to disdain so beautifull a work, and to be afraid of a Creature that weaves so curiously. Lastly God hath given a wonderfull disposition and nature of the skin to so wonderfull a body; for it doth not only once a year (as Vipers do) but every Moneth if she be well fed she changeth her skin, and recovers a new one that is more curious. Also it is of so excellent a temper, and so frugall in its diet, that in a wholesome place, where

The praise of
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she can get any provision, she will live alwayes. I think that to be the chiefeft good amongst the goods of Fortune, or rather Fate, that they carry the matter of their Webs in their belly, and they are so well stored with it, that a Spider can draw forth innumerable threds and weave them, and catch if need be, a hundred Flies, and have Nets enow to wrap them in. And though they have not meat in a Granary as Pismires have, nor ready and growing up, as Bees have, but they live only upon food they light upon by chance, yet by Gods providence the prey comes flying by that sustains them, and oft times they grow fat with plentifull dishes that they take by hostility. Further, I should think it no small part of good Fortune given to the Spider, that when she is satisfied with the troublesome fare of the Court, yet she never hath the Gout. You have heard that *Solomon* of old assigned her a place in Kings Palaces, that she might be a pattern to his Courtiers, to labour, to be ingenuous, wise, frugall, and vertuous. There beginning her Webs she workt with hands and feet, and never need to goe a hawking for Flies, she feared no assaults, no treachery: and briefly, this most wise creature did bear rule in the great Palace of that great King. After him arose bad Princes, that were idle, followed ill counsell, that came to ruine, it is hard to say, how hardly they used the poor Spider, and commanded forthwith to sweep her down with beesoms and poles, as if she had been a night-robber, and to tread her under foot, and to kill her. Presently Furies ran and swept down and spoyled all those learmed works that had been wrought, so that she could hardly escape the quick-sighted beesoms of those lazy devils. She was most miserable now, left all alone in so great abundance, and in so large houses, she could not finde one corner to be in. And by the Kings example, the Nobles and rich men drove out this Mistresse of labour and vertue, and they would not suffer one thred to remain, that was a Token and Ensign of her great wisdom. She when once she went abroad to travell (as the Fabulist wittily saith) the Gout by chance came to keep her company, though she could hardly hold pace with her, but with great toil. When as now they had travelled one dayes journey, at night they took counsell to try their Host, but they were of different opinions. The Spider going into the City, got into the house of a rich Citizen, and so soon as she began to work and to spread her Tapestry and hangings, (by the example of the bad Kings) he forthwith hates her, and drives her out, and the same night he expos'd her to the rain and open air. But the Gout being lame, when he could go no further, got into the first house of the Town, and could scarce intreat to be harboured in the poorest Cottage there; and when she lay down, she found misery enough; she had for supper brown bread that her stomach rose against, and a little herbs, scarce any salt upon them, and water was fetcht from the next pond, in an earthen Pitcher to quench her thirst; being thus entertained, she required a bed to ly on, she could get none but straw or the planks to ly upon, and so she lay down in pitifull misery, lamenting and sighing: But alas how wretched a thing it is for tender limbs, and that cannot endure to be touched (as saith *Hippocrates*) to ly upon such a hard bed and pillowes. The next morning the Spider and the Gout met again; the Spider complained terribly of the incivility and rudennesse of the rich Citizen, and the Gout on the other side complained of her Hosts poverty and poor fare, shewing the

the black and blew marks the hard lodging had made in her skin; and when they had a while taken deliberation about it, they both agreed upon this, that the next night they would change their host; that the Spider should go to the poor cottages, and the Gowt to the Kings palaces and rich mens houses: the Gowt not unmindful of this agreement, went to a very rich mans house, and lay down at the feet of a very well fed Master, that was very rich, and so soon as this kinde host perceived her, with what humanity, embracings, and cheerefulness did he entertain her! down pillowes were laid under her, all the stools and chairs in the chambers are filled with the best feathers, and cushions laid upon them; the Kitchen was very hot, and all officers at work for provision; the table is spread with all dainties, and the cups fill'd with Wine; fat and cramb'd Capons, Pheasants, Partridge, Peacocks, Quails, Turtles, that feed on figs and grapes, and those birds that have two hearts to set them forth come flying to the table: Turbots, Gilt-heads, Sturgeons, are not worth speaking of. The shell-fish of *Campania* with purple juice, and Oysters from *Abydus*, and whatsoever the whole ocean can afford, are ready. The Wines, are white, black, red, purple, sweet, delicate, sharp, *Cecubum*, *Falerum*, *Chium*, powred forth in full bowls. To say nothing of the second table brought from *Tarentum*, and the dainty cates, with Rose, Violet, and Iacinth coloured. Lastly, no delights, dainties, pleasures, or joyes are wanting, that the rich Gowt, (for she is daughter to *Bacchus* and *Venus*) with her sisters, the hand and knee-gowts, may be entertained delicately. The Spider also as good hap was, light upon a poor Cottage instead of a rich palace, and there she teacheth man and wife what duties are useful for both, and fatts her self with care. But perhaps some man wil object that they can finde no good fortune in this, but only the Spider may be commended for changing her habitation and her host; but it is very fortunate for her: for she lives not only safer, and more at rest, but she doth not from the roof as from a watch-tower, behold any more adulteries, gluttony, riot, prodigality, lasciviousness, plays, dancings, wantonness, dicings, cardings, and lastly those vanities, and beattiness, that never enter into poor mens cottages, whereof she knew her self to be guilty, whilest she lived in Courts and Palaces of great men, who so soon as they had driven forth the Spider, (the mistress of labour and frugality) were presently seized on by the Gowt, and not only so, but all luxury, dissembling, lying, flattering, pride, entred into their palaces, or rather into their ears, eyes, and mindes, and polluted them with all wickedness and companions of all mischiefs: were it not better for Kings to allow this good, frugal, wise, harmless little creature a room in their large chambers, than to hearken to, and to reward so much such pick-thanks, and Court-flatterers, and voluptuous persons, who by their wicked counsel and example will quickly corrupt the best men? I know not whether I Prayles of the Spider from the gifts of her minde.

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No indeed, but the Spider hath a certain divine wisdom given her, as the Poet sang truly,

*Her body moves by vertue of her minde,
Diffused in every part —*

Moreover, so soon as they see an enemy fallen within their nets, they do not presently wound him, or bite him in a hostile manner, but they kisse as it were and tickle him, until they have all smeered him over with a clammy web fetcht out from the hinder parts with their hindmost feet, and have as it were bound him with bands, taking away from him all power of resistance, flying away or moving; then that thred being fastned to their web, they run to the centre to observe, if any new prey may fall within their nets: and thus sometimes you shall see ten or twenty Flies hung up on a line on high, and the Spider will take them one after another, breaking their line they hang by, and fastned to one of the hinder legs, will carry them to the centre of her work, and there devour them: she feeds on nothing but the juice of Flies, and when the carcass is dry and void of all juice, she throws it down as an useless burden to her web. Moreover, because the female is something greater than the male, therefore she hangs under and observes, for fear the small creatures should perceive and take heed, but that they may fall unawares into her net, for by reason of her greater body she is not so fit to catch her prey. But the male is more active, and lies a top, as if he were otherwise imployed, or else seeing all things from a very little hole in his net, he conceals himself that he cannot be seen. And when any by chance comes to his lot, how vigilant is he and intent after his game? for he will not let his prey escape, but he runs from the uppermost line to the lowest suddenly, and when he hath his belly full, he laies up the rest of his provant, and hangs them up by a thred to suck them another time. And when as by age the webs have lost their clammy quality to hold fast, the Spider either new weaves them, or else begleues them anew and repairs them. Her work ended, she either contains her self in her hole, or watching above she holds the thread drawn from the centre, as it were with

with her hands, whereby she can go and come to her nets and retreat at pleasure, and also (if any prey be taken) she perceives it by the motion of her web. But to be more certain, before she comes down, she drawes her thred back sometimes, that she may know how it is by motion and weight. Then first she hastneth to the centre; which the ensnared little creatures either feeling or conjecturing, do lie still, lest by motion they should discover themselves and be more entangled; yet they cannot deceive the Spiders who with feet and eyes perceive their prey, and run swiftly unto it suddenly. But good God, what and how great justice is seen amongst Spiders? None of them robs another of his wife, none of them enters upon anothers house; each of them lives by his own labour and possessions, and they hold it unlawful to break the bands that belong their neighbours:

*But men are not so just, oh pity 'tis to see
How covetous they are, lust reigns in each degree:
Adding house to house, both seas and lands,
And more worlds they fain would have in their hands.*

Farther, they do not pitch their nets for such creatures as are good, and useful, but to catch Hornets, Oxe-flies, Horse-flies, Wasps, Drones, Breezes, Gnats, common Flies, which are to us like bawds, thieves, flatterers (as the Comedian speaks) that breed us many inconveniences, but are no way fit to do us any good. Moreover, she dares (as she is very valiant and magnanimous) hunt after the Lizards young ones, whom she presently involves in her net, as they make resistance, then laying hold of both their lips with a deadly biting, she holds them so fast, that she makes them dye under her. And lastly like another *Cacus* she drawes them backward dead into her lurking place. And if by chance in this great contest, she findes her nets broken or folded together, she presently repairs, unfolds, and spreads them anew with great dexterity. Farther yet, there is a fierce and everlasting feud between the Spider and the Serpent: for if at any time the Serpent seeking shady places, falls upon some places under a tree where many Spiders are, one or other of them will fall right upon the Serpents head with his net, and she will so beat upon his brain with her mouth, that he will make a noise and hiss, and be so vertiginous, that in this miserable condition, he can neither break her thread, nor escape from her. Nor is their end of this combate, till the Spider have destroyed him. Let the *Romans* be silent concerning their battails on the stage, and the cruel combates of Elephants, when a little Spider dares fight with a horrid and wan black Serpent; and not only to fight with him, but to triumph over him, and carry away the rich spoils of her victory. Who would not admire so great force, so great weight, so sharp and hard bitings, and almost incredible strength, in so small a body, and of no consideration, having neither bones, nerves, flesh, and hardly any skin? this cannot proceed from its body, but its spirit; or rather from God himself: In the same fashion they enter the lists with land and water Toads, and kill them in single fight. For not only *Pliny* and *Albertus* the Philosopher mention this, but also *Erasmus* in his Dialogue of friendship, relates, how a certain Monk, who slept with open mouth, and had a Toad hanging at his lip, escaped by assistance of the Spider. Oft-times also they enter the stage with the winged Hornet, that hath a strong sting, and fibres almost of horn, who straight by main force breaks through their webs, as great rich men do with the Laws, yet at last he is wrapt in a more tenacious glew, and pays for breaking open their houses, and conquer'd in single duel, he becomes subject to the Spider.

I must not passe by their temperance that was once proper to Man, but now the Spiders have almost won it from them. Who is there now, (if age will let him) who will be content with the love of one? and doth not deliver up himself body and soul to wandring lust? But the Spider so soon as they grow up, choose their mates, and never part till death. Moreover as they are most impatient of corrivals, so they set upon any Adulterers that dare venture upon their Cottages, and bite them, and drive them away, and oft-times justly destroy them. Nor doth any one of them attempt to offer violence to the female of another, or to assault her chastity. So great command have they of their affections, so faithful and entire are they in their conjugal love, like Turtles. If you respect their household government, what is there more frugal, more laborious, or more cleanly to be seen in the whole world? For they will not suffer the least thread to be lost, or placed in vain; and they ease themselves by interchangeable work; for when the female weaves, the male hunts: if either be sick, the other supplies both offices, that they may deserve alike. So sometimes the female hunts, and the male weaves, and this at any time when the one wants the others assistance; for we cannot think them so void of mutual love, that living so faithful in Matrimony, the one should not lend a helping hand to the others necessities, and so by mutual courtesie they continue their friendship amongst themselves. The female at home being now learned from her Parents to spin and weave (as she is wont to do with us) she begins her webs, and her belly contains all the matter of them, whether it be for that at a certain time her entrails are so corrupted (as *Democritus* said) or that there is a kinde of woolly fruitfulness in her as there is in the Silk-worm. Yet *Aristotle* will have the matter to be without, like a thin shell which is drawn in length, by spinning and weaving; or after the manner of those that shoot out their bristles, as the Porcupine. However it be, they lose not the least

least end of a thred, but they undertake all by providence. Their love to their young ones no man can rightly describe, but he that loves his children himself. For by mutuall incubation, they foster their Egges, and raise up and increase the heat of them; and though oft-times they produce three hundred young ones, yet they bring them all up alike to labour, sparingnesse, discipline, and weaving, and love them all alike. I have oft wondred at their cleanlinesse, when I have seen those that were weak and sick to go down to the bottome of their Web, out of their dens, and exonerate their bellies, left by the filth of their excrements their houses, or Web, or threds should be polluted. And these things shall suffice for their civill and æconomicall vertues. Now let us proceed to their art of making Nets, which is so offensive to *Pallas*, for the Scholar exceeded her Mistris in the curiosity of her work. First therefore we shall consider the clammy stufte that drawes like Bird-lime, which loseth not its tenaciousnesse by driness nor by moisture, we said from *Pliny*, that she drawes this stufte out of her belly. But seeing that the males weave also, I think on good grounds, with our friend *Brueus*, that it is drawn out of the entrails behinde. And since it cannot be exhausted, we may wonder at the infinite and endlesse power of God, and adore it, for it were next to madness to assign this to bodily or naturall causes. Those Spiders are held to be the best Artificers that work in Autumn, and are called *Holci*; they draw a thred that is smaller then any linnen or silk, and farre lighter, and so pure (saith *Ælianus*) that the whole Web wrapt together, will scarce make one thred as great as a linnen thred though it be never so small. *Edwardus Monimus* described these, both Males and Females, very elegantly *Heptam*: l. 7. in these words:

*He hunts at home,
But she doth weave within her tender loom,
And jugler-like, she from her belly casts
Great clewes of yarn and threds, which while it lasts
She works to make her Nets, and every part
She frames exactly by Dedalian art,
Her Web is fastened to the beam, the threds
Are parted by fit lines at severall heads,*

*She works from Centre to circumference,
The Web is made on both sides for defence,
Pervious lest when the East-winde doth set
Strong, it might break this tender worke, and yet
The strongest Flie may be held in this Net.
No sooner can a Flie but shake her threds,
The male runs to the Centre, and his head
Peeps forth to catch what comes, so is he fed.*

The variety of their Nets is so great, that it is not called amisse, the Goddesse of a thousand works; some of them are looser, some thicker, some triangular, others square, some Diamond figures, for the commodity of the swiftnesse of hawking: But that which is round is commonly wrought between two trees, or Reeds, and oft times in divers windowes, hanged fast with ropes, and sail-yards. Good God, what great reason, judgement, art, what admirable wisdom and beauty she shews! Truly we may not suppose amisse, to say that *Euclides* learned to make his figures from hence, and Fishermen their Nets; for from whence else could they fetch such an example of so curious and laborious a Mistrisse? So finely is her work besmeared, and made so round and exact, and so equally ballanced, and she doth so work her body in place of a weight and spindle, that she may well be compared with *Minerva*, but that the comparison makes me afraid. Also the work is so firm, though it appear so weak, that it will hold Hornets, endure force of windes, and dust being fallen into it, it rather yeelds than breaks or is hurt. The manner of her Net-work is this. First she drawes her semidiameters to the places circumabient, most fit for her work, then with no compasse, but by a naturall skill of her feet, she makes 44 circles with her thread from the center to the circumference, by equall parts more distant one from the other. Moreover that is worth our knowing, as also it seemed most admirable to our most learned *Turnerus* and *Brueus*, namely, that those Spiders when they are purposed to fasten a thred from a high beam, in a right line to the earth, they hold a little stone with their feet, and then by degrees they let themselves down by a three doubled thred, that the angle at the earth may answer the angle above by the beam exactly. But that above all the rest is worthy of admiration, how they fasten the first thred on the hither side of the River, and the second on the farther side, whereas Nature hath not taught them to fly, or to swim; I much doubt whether they leap over or not. The second praises in weaving they deserve, that build on the rafts of houses, and other Field-spiders, who upon the grasse weave a Net, that is broad, thick, and plain, and it is a Net indeed, spread forth like a sayl, or sheet. In the work of these Spiders, if you consider the wouf, the skains of yarn, the trendle, the shittle, the comb, the woof, the distaffe, the web, either you will see nothing, or you must see God insensible, yet really performing all these things; and truly in spinning, they go far before the *Egyptians*, *Lydians*, *Penelope*, *Tanaquil*, *Amestris*, *Romes Claudiana*, *Sabina*, *Julia*, and the Queens of *Macedonia*, that were wonderfully skilled in spinning, because (beyond all ordrdinary reason and art) no threds being drawn overthwart, they make a solid and tenacious Web, of a straight continued long thred. Their work being ended, they smear it over with a birdlimy glutinous spittle, by the touch of which alone the prey is entangled, and payes for its blindness and want of foresight. The colour of her Web is aereall and transparent, or rather no colour, which is the thing deceives the Flies that are not aware of it, and they that see best hardly escape it. For had it but any perfect colour, they would think what need they had to avoid it, and fly farther from it. The most ignoble

Y y y

Spiders

Spiders, (namely, those that are sluggish, fat, and that ly in holes) make but a very coarse Web, and grosser thred by farre, which they hang only to holes in Walls. These have a more heavy body, shorter feet, and are more unfit to spin or card; they light upon their prey rather by chance than seek for it, because the hole is great without, and seems a fit place for Flies to hide themselves in; but at the very entrance they are ensnared by the Spider, and caught, and are carryed into the Shambles for Flies to be slain. For they ly deep in Walls, that they may escape the Birds that ly in wait for them (as Sparrows, Red-breasts, Nightingales, Hedge-sparrows) and that they may the sooner ensnare the Flies that suspect no harm. And for Spiders that are harmlesse, and for their webs, let this suffice: Now we shall adde something concerning those kindes I have observed.

CHAP. XIV.

Of certain kindes of Spiders observed by Authors.

YOu may remember that I so divided Spiders, that some were venomous, and called *Phalangia*, and others were harmlesse: Few of the *Phalangia* (and perhaps none) use to spin, but all the rest spend their time in making threds or Nets. Some of these Net-work-



workers are House Spiders, others are field Spiders, so also are those that make threds distinguished.

Amongst the Net-workers I saw one the greatest of all, I have set down the picture of it here. In Autumn amongst small Rose-boughs it extendeth an artificiall Net, and it catcheth either another Spider running over it, or Gnats or Flies that come to it, when she pulls her cord with wonderfull dexterity, and when she hath hanged them thus up, she leaves them till she growes hungry again. She hath a frothy body, Ovall figured almost, it hath a little head with pinfers under the belly, and the back is adorned with white spots: This is one of the Autumnal *Holci*, and in a very short time it will grow from the bignesse of a Pease to be as big as you see her here described. Amongst the Web-makers, we have seen some spin a very fine Web, others spin one that was but moderately fine, some spin base lusse, grosse, rude, and ill favoured: The most subtil work-masters are the House-bred Spiders, whereof we have here set down one of a brown colour, of the bignesse of the figure, and being placed between you and the Sun, it is of some transparency. This is it whose commendation was written by *Cælius Secundus Curio*, and the nature of it by *Pliny*, which taught *Heba*, *Penelope*, the *Egyptians*, *Lydians*, *Macedonians*, and others that were given to spinning. This field Spider weaves a moderate and strong Web in hedges, stretching forth his sheet with a Coverlaid, and where he dwells he waits for his prey. His Web is thicker that it may not rain through, and better to endure the force of windes, she hath a brown body, but feet that are changeable colours, varied with black and white spots in order, she hath a forked mouth, fenced with claws, the two white spots that are seen above in the head I know not whether they serve for eyes, the whole body is gently hairy; she doth stretch out her Web wide and long, that she may catch much prey, to which she is very much addicted. This field Spider spins a base and unpolished thred, and gathers it as it were into a bundle. *Pennius* first observed this kinde in *Colchester* fields between wilde *Origanum* watching for Flies, and he never saw it otherwise. It hath feet like to those described just before, a round



round body like a Globe, the back is marked with white spots, also it hath a fundament four square, and black. Hitherto also we referre three kindes of the Spiders called *Lupi*, who live in chinks of Walls, heaps of stones, and old rubbish: they weave a base and small Web in their holes, and in the day time they wander farther abroad in hopes of prey, which they set upon with great force, and draw into their dens. The greatest of them is of a brown colour, it hath a head almost of Ovall figure, the body as a Globe, both sides are adorned with two

small and short white lines, about the middle of the back it is of a more whitish colour, it hath feet comely with divers black and brown spots: The middlemost is the least, and grey-coloured; the ridge of the back is set forth by three Pearles as it were, whereof that which is next to the neck is greater and longer. The third seems to be blacker, wearing a Crosse overthwart the back very white, and with right angles, and therefore some call it the holy Spider. I conjecture that these are of the Wolf kinde, because they run with a kinde of leaping, and discover a great ravening appetite, for they lay up nought for the morrow, but consume all their provision in one day. *Gesner* saw one of this kinde that was Ash-coloured. There

are also Spiders with long shanks, that make disorderly and most rude work. The field Spider with a body almost round and brown, that lives about grasse and Sheep, the English call it *Shepherd*, either because it is pleased with the company of Sheep, or because Shepherds think those fields that are full of them to be good wholesome Sheep-pasture, and no venome to be it, (for this Shepherd taken inwardly, or outwardly applyed, is a harmlesse Creature.) There are yet more kindes of Spiders, for there is a kinde of black Spider, with short feet, that hath a white Egge under the belly, white as snow, and running swiftly; when the Egge breaks,

many young Spiders run forth, which go all with their Dam to feed, and at night they rest upon the Dams back. *Pennius* supposed that this was rough with warts, untill he touched it with a straw, and saw the young Spiders to run down. Also in rotten hollow trees there are very black Spiders, with great bodies, very short feet, that dwell with Cheellips, and Caterpillers called *Juli*. Also saith *Gesner*, we have seen them all white, with a compacted and broad little body, upon the flower of Mountain Parsley, Roses, and grasse, they have most long slender legs, the mouth is noted with a spot, and both sides with a red line; he thought it was venomous; because he saw a Munkey almost dead that had eaten one, and could hardly be recovered by powring Oyl down his throat.

We know also Spiders with a long body, and a sharp tail, they are red from black, as also green. Also there are red ones of two kindes, one great one that dwells only in the Caves of the earth, with a body Cinnabar colour, with feet yellow from red, the tail and belly tend toward yellow a little from brown. There is another sort very small, lesse then a Sheeps Tike, as red as Scarlet, it hath but six feet, being a monster amongst Spiders; it hath a head like as Spiders have, but it is very small: It lives in the earth, and weaves a very course Web, and not well wrought; sometimes she wandreth abroad, and shews great agility to catch her prey. We grant willingly that there are more kindes of Spiders, and of more colours, for our land brings not all things forth, nor yet did *Alectorides*, though he was called *omniscius*, see all things. It may be future times may delineate the rest better. In the mean time

we have spoken of Spiders if not to delight, yet according as we thought fit, and we would do no more, because in writing so much of them we have taken great pains: Yet this we shall observe, that all Net-workers, and Web-workers amongst Spiders, do grow to have greater skill by age, and that shut up in Wooll, they increase the generation of Moths, and they yearly oft times cast off their old skin, and the greater and lustier they are, the more ingenious are they found to be in their gifts of life.

CHAP. XV.

Of the generation, copulation, and use of Spiders.

Generation.

Copulation.

The use.

IT is manifest that Spiders are bred of some aereall seeds putrefied, from filth, and corruption, because that the newest houses the first day they are whited will have both Spiders and Cobwebs in them. But their propagation is frequently by copulation, the desire and act whereof lasts almost all the Spring. They do by a mutual and frequent attraction of their Nets, as it were kindle venery, and continually as they draw, they come neerer, then at last they copulate backwards, because that manner of copulation, by reason of their round body was most convenient: After the same manner do all the *Phalangia* that weave, copulate together, and they are generated from creatures of the same kinde as *Aristotle* testifies. But they copulate not in the Spring, but at beginning of the Winter; at which time they go fastest, and hurt certainly, and seem to be more venomous. Some after copulation lay one Egge alone, and carry it under their belly, and it is white as snow, and they sit on it by course, the male sometimes helping the female. Others lay many and very small Egges, like Poppy-seeds, out of which sometimes thirty small Spiders are bred, after some trifling sports in their Web, they go forth with their Dam, and in the evening they come in again, untill such time as each of them hath learned to spin its own Web, to live more safely and pleasantly, they thrust forth their young by leaping, they sit on their Egges three dayes, and in a Lunar moneth, they bring their young to perfection. The House Spiders lay their Egges in a thin Web, but the field Spiders in a thick, because they may resist the greater forces of winde and rain; the place helps much for Generation. For as in the Countrey of *Arrhenia*, and in the Island of *Crete* there are great store of *Phalangia*, so in *Ireland* there are none; they did not long indure in *England*, the Tower at *Gratianopolis* would suffer none, for though many of our Spiders swallowed down do hurt us, yet their bite is harmlesse, and no man is killed by it, but the bitings of all *Phalangia* are deadly. Where shall you not finde these Spiders that bite without doing hurt? they climbe up into Kings Courts to teach them vertue: they work in Noble mens Chambers to teach them their Duties: they dwell in poor mens houses to teach them patience, to suffer, and to labour: Goe but into your Orchard, and each tree is inhabited by them, in your Garden, they hide in Roses, in the field they work in hedges, you shall finde them at home and abroad, that you may have no cause to complain that there are no examples for vertue and diligence every where. The Spider, though *Pallas* called her impudent, *Martial* unconstant, *Claudian* bold, *Politian* pendulous, *Juvenal* dry, *Propertius* corrupt, *Virgil* light, *Plautus* unprofitable: yet is she good, and created for many uses, as shall appear clearly; wherefore adoring the Majesty of God who hath given so great vertues to so small a Creature, we shall proceed to speak of the profits we receive by her. The Flie-catching Spider wrapt in a linnen cloth, and hang'd on the left arm, is good to drive away a Quotidian, saith *Trallianus*. But better if many of them be boyld with Oyl of Bayes to the consistence of a Liniment; if you anoynt the arteries of the Wrists, the arms and Temples before the fit, the Feaver abates, and seldom comes again. *Kiramides*. A Spider bruised with a plaister, and spread on a cloath and applyed to the Temples, cures a Tertian. *Dioscorides*. The Spider called *Lycos*, put in a quill, and hang'd on the breast doth the same. *Pliny*. That House Spider that spins a thick fine and white Web, shut up in a piece of leather, or a Nut-shell, and hang'd to the arm or neck, is thought to drive away the fits of a Quartane. *Dioscorides*. *Pennius* saith he proved it to be true. Three living Spiders put into Oyl, let them presently boyl on the fire, drop some of that Oyl warm into the ear that is in pain, and it profits much. Or presse out the juice of Spiders with juice of Roses, and put it in with Wooll. *Marcellus Empir.* *Pliny* bids infuse them in Vinegar or Oyl of Roses and stamp them, and then drop some into the ear with Saffron; and it will kill the pain certainly: *Dioscorides* affirms as much. *Sostratus* the *Saxan*, saith, that *Cranocolaptes* (a certain Spider) drowned in Oyl is a present remedy against poysons, as the Scholiast of *Nicander* professeth. Some catch a Spider with their left hand, and bruise her in Oyl of Roses, and drop some of it into the ear of the same side the tooth akes, and *Pliny* saith it is a cure. Laid upon their own bites, and taken inwardly they help us. What should I speak of the *Albugo* of the eye, a most hurtfull disease? Yet that is taken away very easily by the help of one Spider, if you do but bruise the longest and slenderest feet (especially of that kinde of Spiders that are the whitest) with Oyl, and anoynt the eyes affected with it. *Pliny*. Also the running of the eyes is stopped, (which the *Greeks* call *Empoeia*) with the dung and urine of a House Spider dropt in with Oyl of Roses, or one dram of Saffron, or else laid on alone with Wooll: whereby you may know that there is nothing so filthy in a Spider that is not good for something. *Aetius* for suffocation of the mother, applyed a Cerate of Spiders to the Navel, and saith it did great good. *Pliny* saith, that Spiders help the swelling and pain of the spleen, but he tells us not his reason. He saith moreover, that if any man take a Spider coming down with his thread, and bruised in the hollow of his hand, do lay it to the Navel it will cause a stool, but if he takes him climbing up,

up, and applies him, it stops the belly. He writes also that a Spider applyed to one that knows not of it, and taken off the third day, will cure a *Felon*. The head and feet being taken away, it helps swellings of the Fundament. *The same Author*. By the fume of Spiders all the Lice fall down and never breed again. Goose-grease and Oyl of Roses with a Spider annoynted on the breasts, keeps the milk from curding in them. *Anonymus*. Also that knotty Whip of God, and mock of all Physicians, the *Gowt*, which learned men say can be cured by no remedy, findes help and cure by a Spider layd on, if it be taken at that time when neither Sun nor Moon shine, and the hinder legs pulled off, and put into a Deers skin and bound to the pained foot, and be left on it for some time. Also for the most part we finde those people to be free from the *Gowt* of hands or feet, (which few Medicaments can doe) in whose houses the Spiders breed much, and doth beautifie them with her Tapestry and hangings. Oh the rare miracle of Nature! O the wonderfull vertue of a poor contemptible Creature! O most happy rich men, if they knew many of them how to make use of a thing ready to do them so much good! *Antoninus Pius* was wont to say, that the quirks of Sophistry were like to Spiders Webs, that had a great deal of art and ingenuity in them, but very little profit. But how often hath the bloud run forth of the body most miserably by a fresh wound? yet it had been easie to have stopt it by laying on a Spiders Web, something thick, and binding it fast on, were we but more attentive to look to such remedies that God affords us in our houses. But we are greedy after forain remedies, fetcht from farre, as if they were better than we bring with great pains from the farthest *Indies*, or more healthfull because of their greater cost. But unlesse mad affection did drive us, as if we were Gad-flung, through all the places of Sea or Land, to finde remedies to stop bloud, cure Ulcers, hinder corruption, drive away inflammation, knit wounds, one Spiders Web would do more good than *Sercocolla*, *Sandaraca*, Bole brought from *Armenia*, *Terra Sigillata*, *Argilla Samia*, *Terra Lemnia*: For it bindes, cools, dries, glutinates, and will let no putrefaction continue long there; wherefore it suddenly stops all bleeding at the nose, (as also bleeding of the Emrods, and bloud in a Dysentery, Menstrual bloud, and all over great evacuations of bloud by the opening of the mouths of the veins) whether you give it alone with wine inwardly, and lay it on outwardly, or else mingle it with Bloud-stone, *Crocus Martis*, and other things of that kinde. Also the Spiders web is put into the Unguent against *Tetters*, and applyed to the swellings of the Fundament, it consumes them without pain. *Marcel. Emp.* Also *Pliny* saith it cures runnings of the Eyes, and layd on with Oyl it heals up wounds in the joynts. Some rather use the ashes of the webs with *Polenta* and wine. Our Chirurgians cure warts thus: They wrap a Spiders ordinary web into the fashion of a Ball, and laying it on the wart, they set it on fire, and so let it burn to ashes; by this means the wart is rooted out by the roots, and will never grow again. *Marcellus Empiricus* was wont to use the webs of Spiders found in the Cypress tree, in a remedy for the *Gowt*, to ease the pains. For the Tooth-ache, *Galen* 5. *lib. 10.* out of *Archigenes*, commends highly Spiders Egges, mingled with Spike Oyl, and put into the tooth: Also *Kiranides* gives Spiders Egges to drink against a Tertian; whence we conclude with *Galen ad Pison*. From the Spiders web we may understand enough, that Nature hath made nothing so vile, but that it serveth for its necessary use; if so be Physicians would use more diligence, and would not disdain to enter into the wood of such things as are easie to attain. Now I will proceed to other things, lest if I stay too long in the History of the Spiders, I may indeed be said to weave the Spiders web; yet I will add this, that Munkeys, Apes, Strellions, Lizards, Wasps, Ichneumons, Swallows, Sparrows, Muskens, Hedge-sparrows, feed on Spiders. And the Nightringale, that is the chief of singing Birds, is cured from some diseases by eating of Spiders. When *Alexander* reigned, it is reported that there was a very beautifull Strumpet in *Alexandria*, that fed alwayes from her childehood on Spiders, and for that reason the King was admonished that he should be very carefull not to embrace her, lest he should be poysoned by venome that might evaporate from her by sweat. *Albertus* also makes mention of a certain Noble Mayd of *Colen*, that was fed with Spiders from her childehood. And we in *England* have a great Lady yet living, who (as we said before) will not leave off eating of them. I cannot but repeat a history that I formerly heard from our dear friend worthy to be believed, *Bruerus*. A lustfull Nephew of his, having spent his estate in rioting and Brothel-houses, being ready to undertake any thing for money, to the hazard of his life; when he heard of a rich Matron of *London*, that was troubled with a Timpany, and was forsaken of all Physicians as past cure, he counterfeited himself to be a Physician in practice, giving forth that he would cure her and all diseases. But as the custome is, he must have half in hand, and the other half under her hand, to be payed when she was cured. Then he gave her a Spider to drink, as supposing her past cure, promising to make her well in three dayes, and so in a Coach with four Horses he presently halts out of Town, lest there being a rumor of the death of her (which he supposed to be very neer) he should be apprehended for killing her. But the woman shortly after by the force of the venome was cured, and the ignorant Physician who was the Author of so great a work, was not known. After some moneths this good man returns, not knowing what had happened, and secretly enquiring concerning the state of that woman, he heard she was recovered. Then he began to boast openly, and to ask her how she had observed her diet, and he excused his long absence, by reason of the sicknesse of a principal friend, and that he was certain that no harm could proceed

ceed from so healthful physick; also he asked confidently for the rest of his reward, and to be given him freely. Truly in this present corruption of manners and times, how highly is such a Mountebank esteemed, wherein chance is accounted for skill, and one accidental rash cure of a disease, with danger oft-times of the patients life, makes a Quacksalver a great Physician, and he is judged worthy of praise and honour? But a better revenging Judge will correct these things; we pass on to Pismires.

CHAP. XVI.

The commendation of Pismires; wherein we shall describe their Differences, Nature, Ingenuity and Use.

TO begin with the commendations of the Pismires, I know not whether I shall first speak of their body or minde, since Ants for both are not only to be preferred before many Insects; but also before many Men; for they are not one ey'd, nor horrid skew-ey'd, nor do they walk with crammed guts, as *Ballio* doth in *Plantus*, nor yet are they mishapen, crook-leg'd any way, gorbellied, over close kneed, blub-cheek'd, great mouthed, lean chopt, rude foreheads, or barren, as many great Ladies, and noble Women are, who have lost the faculty of generation; but the beauty of their body follows the goodness of their minde, and nature hath given them for their degree and order, a constant and absolute perfection. *Cardan* was the first said they were blinde, because their body is small; not remembering that there are many Flies and Gnats that are far less than Ants, yet they have eyes and can see well. If they were blind, I see not what the light could profit them, and they would work as well in the night as in the day. I confess that their foreyards serve them for a staff to prove the way, not that they do not see what way they go, but because by those means they try the hardness and softness of things. They have a very little head, but round as the heavens are, wilde brain'd, set with eyes, a mouth with teeth, and a throat not without a tongue and a palate; they have a square breast with ribs to defend it, with lungs, or bellows that supply their room, that are so firm, and yet loose, that they never grow out of winde by labouring, but alwayes draw their breath most freely. They have a stomach in their belly that is strong to digest venome, (for they feed often on Serpents and Toads) and they are very hot in the matrix, and very fruitfull, to their commendation. What should I here mention their swift walking, and their equall motion when they goe? for they not only out-goe pack-horses for the proportion of their bodies, but out-run the swiftest Chariots. They vary in colour, according to the difference of their kindes and places. For there are red ones in *Mauritania*, and the Inhabitants of *Budemelum* have white ones. In *Europe* they are most an end black ones, yellow, and somewhat red from tawny. Here they seem very short, smaller, fine necked, slender, and weak bodied; yet these will carry a weight thrice as great and heavy as themselves; and those in *India* of a great bignesse, will carry great pieces of flesh with them, and devour it.

Their praise
from their
minde.

*Their bodies you have seen, now see their minde,
It's a sparing and laborious kinde,
And holds and keeps whatever she can finde.*

Virg. 4. Aeneid.

Truly, as often as I remember the profuseness of *Caius Julius Caesar*, the luxury of *Caligula*, the prodigality of *Nero*, the excessive gluttony of *Apicius*, and the great waste of *Heliogabalus*; so often do I exceedingly commend the wit and ingenuity of the Pismire, and prefer her prudence before that of Men. I know that they lived sweetly, and with fat patrimonies from their fathers, they gained large inheritances; yet they found out new use of baths, dangerous kindes of meats, curiosity in banquets, ships made of cedars adorned with Jewels, the drinking of pearls, and they wasted as much in one year, as they could extort for tributes and customs, or by plunder both at home and abroad all their life time. *Licinius Crassus* had formerly much riches, who being brought to need, was laught at by all that met him, and the people in a jeer, called him the rich *Crassus*. And (Oh God!) saith the Comedian, what a miserable thing it is for a man to have had a great estate formerly, and to have nothing now? how much better were it for us to imitate the Ant, who gathering corn in Autumn, doth not waste it prodigally in Winter rioting, but keeps it providently for future use, and daily store? Hence it is that she is never tortured with hard poverty, nor is she tossed on the billows of cross fortune, nor is she indebted or in danger by borrowing from others; nor doth she seek from other creatures either work, or sustenance to maintain her, and keep her in health: and if frugality comes from fruits, as the Etymologist derives it, (for our Ancestors, the Masters of old sobriety, scarce knew any other diet) it is very credible that that vertue is passed from our first parents into the Pismires, who feed only on dry corn to maintain their lives, and avoid all superfluity of many dishes. Hence the Poet elegantly feigned that the *Myrmidons*, the most excellent people of the Greek Nation (if you consider their

tempe-

temperance, their labour and their diligence) were descended of the Pismires. For whence could they have gotten so great abundance of riches and goods, unless by an Emmets prudence they had preserved what they had gotten and laid up to prevent poverty? And as sparing in keeping, so diligence in getting, and wisdom and industry is found to be admirable in them. They take a very commendable way first to preserve their life, then for their posterity, and lastly to provide their victuals. First of all, they build themselves an house, as in the golden age, not covered with tyles for delight, but with green turfs, and not made of bricks, but fenced with mud-walls. Histories do mightily magnifie the Pyramides, and trenches of *Egypt*, and the Labyrinth of *Crete*. But no man can sufficiently set forth the excellent work of trenches that the Ants make, the figure, the magnificence, the turnings, windings, and revolutions thereof: for these by an unspeakable prudence, beyond all mans art, make houses under ground with such strange turnings, that they open only the way that is unaccessible to others, and is not possible for any that would do them wrong to enter at. First they make the earth hollow with their tender nails in the place of spades; and to throw the earth forth, they use their hinder feet for shovels: hereby they cast up a mount, and fence it about as with wals or forts; then they cover their work with chaffe, straw, leaves, bowes, bark, and pieces of sticks, and laying on new matter, they raise a tower that may be seen afar off, (called an Ant-hill) which is far higher and more sloping than the foundation, partly that their houses may not fall by rain staying about them, and partly that they may live the more healthfully by reason of the air that penetrates and passeth through. This divine little creature fetcheth the fashion of its building from heaven, either because their multitudes required room, or their excellence required the best. The entrance is not right forth but turning with many labyrinths and mazes; they distinguish their chambers in this tower of theirs in a threefold order, yet it is so hard to come into them, that *Argus* who was all eyes, may be often deceived in them. The first room is large enough, like the Presence-chamber, where they all meet, and convene, we call it the universal Congregation house of Ants: under this for the females, there is the feminine room arched by *Dadalean Art*, wherein the eggs are laid safe that they may produce their young ones, it is made lest they should be thought careless of posterity. The third chamber is most inward, and most safe from showres, and that is built for their store-house for their corn, that as it were in a granary they may lay up their belly-timber, and may fence it well from the winter cold that searcheth into all things; the adjacent parts and outmost skirts of their castle they appoint for a place of burial, and there they bury their dead with honour and state. And this is the manner of their building, plain indeed, and within the ground, as were the houses of the wise men of elder times, before that pride, and the head-strong ambition of *Ninus* invented to build up towers to heaven. Since his death, shall I speak of Kings or Princes? Truly there are some Citizens of the lower bench, who with extraordinary charge do build up, not an Ant-hill, but *Mausoleum*, or a prison for their bodies, and adorn it with all the cost and art they can; worthy they are indeed to be devoured by Pismires whilst they live, that dying by the force of a wise Creature, they may suffer for their folly. Nor do Ants build houses that are places for idle people, or such as are mischievous to harbour themselves in, but every one, yet without any Commander, followes some honest labour, and for the good of their democraticall state, each one mutually employs his pains by turn. For they all, like those that labour in the Mines, do stoutly exercise themselves in digging of trenches, some serve to repair their houses, to adorn them, and to keep them clean; others with great assemblies and funerall solemnities bury their dead, in the place of buriall adjacent; others again visit the sick, and out of their Granary they fetch some Physicall grain, (for they have Corn and grain almost of all plants) and prepare that and carry it to them. They have Officers of all sorts, as Purveyours for Corn, Gleaners, Storers, Yeomen of the Larder, Housholders, Carpenters, Masons, Arch-workers, Pioners; for such is the vertue and skill of every one, that each Ant knows what is needfull to be done, and willingly doth his best to help the Common-wealth. But in their ordinary work what labour and diligence do they use? If they be minded to build an Ant-hill presently, or else are forced on a sudden to raise a new house, the old one being undermin'd and decayed by the Moles digging under them, they go forth all in troops, and from the rubbish of their houses thrown down they build new ones hard by. First they gather together their scattered Egges, and Corn, and put each of them in their proper places, afterwards they repair their hill, and covering and thatching that well, they keep all safe and dry: when the Sun shines, when they go forth to fetch Corn, the greater and elder go before them as Captains, the rest follow after. They creeping up to the top of the stalk, bite off the ears of Corn, and the young ones stay and gather them up, and the Chaffe being fallen off, they pull the Corn out of the husks, and then they carry it home; and the end of it being eaten off, if there be necessity, they set it at their doors a sunning, and when it is ventilated they lay it up again. When gleaning is done, they frequent the threshing floors, and there not by stealth, but openly they take sustenance for their lives, and they enrich their treasury. Which labour of theirs *Virgil* wittily describes in these Verses,

*As when the Ants plunder a heap of Wheat,
Minding cold Winter, store is up for meat.*

Their

*Their black Regiments through narrow wayes passe,
And carry their prey over fields of grasse,
Some bear the burden, some them forward drive,
Chastning delays, who shall work most they strive.*

Wherefore not unfitly did the Prince of morall wisdom, send those sluggish and slothfull Monsters of Mankinde (who like Mice live alwayes on other mens labours, and goe from dore to dore like Vagabonds to beg a peny) to learn wisdom of the Ant, that by the example of the Ant, they may use opportunity, and lay aside begging, esteeming labour much, which is the Merchant for all that is good. Hitherto belongs that of the *French Poet*.

*Poor Sluggard who dost live in penury and want,
Behold the household prudence and wisdom oth' Ant,
Lest she should stand in need, which she doth greatly fear.
She gathers in one moneth, to serve her a whole year.*

This is their diligence in gathering, their care in preserving, their prudence in storing, their economicall skill in distributing what they have laid up. I shall shew you also their modesty on the way, which me thinks should not be over-passed. For though they go in a narrow way, yet are there no brawlings, contentions or strivings for it, nor yet any murmurings, or fightings, or slaughters amongst them for place, (as it is usuall amongst proud men.) But the younger gives place to the elder, and he that carries no burden, to him that is loaded, and each of them is ready modestly rather to passe by an injury, then Waspishly to offer one. If any man compare their burdens with their bodyes, he will confesse that no Creature hath more strength, considering their proportion. They carry their burdens in their mouths; the greater burdens they attempt to take up backwards with their hinder feet, and lay their shoulders to them with all their might. They have all a care and mindefulnesse and endeavour for the publick good. They store up the seed they first bite, lest they should grow again in the earth; when they are subject to grow mouldy, and are wet with rain, they bring them out and dry them in the Sun, wipe and torrefie them, and then they lay them up in their Granaries again. The greater seeds they divide at the entring. They work also at the full Moon in the night, (as good Mowers are wont to do) and when the Moon is in conjunction and hid, then they forbear labouring. But what pains do they take in labouring? How diligent are they? And because they work in divers places, to come home with it, the one not knowing what the other doth; Certain dayes (saith *Pliny*) are appointed for a generall survey, and meeting to enquire into the businesse, what running together of them is there then? how civill is their conversation? how complementally do they salute one the other? how diligently do they seem as it were to talk together, and to make enquiry? You shall see Flints worn in the path they goe, and a path made in Marble stones, that no man may doubt but that diligence will doe something in any matter; for they all goe almost in the same path. For if one carry a burthen too heavy for him, the rest in the way will come and help him, lending their legs and shoulders, if it be a light burthen the fewer come to assist, if a weighty, more come, and either draw back, or thrust forward, or if the burthen be too great, by biting it in sunder, and dividing it, they promote their businesse: And by this means they bring home a great heap of straw and sticks to their houses. Now if any will attempt to hinder the Ants in their labour, (as the Serpents and Toads often doe when they meet them,)

*— They fight and will not flie,
And hold it noble in these wars to die.*

For then (making as it were an agreement) they conspire together, and with horrid and cruell bitings, they destroy the enemy. He that hath not fastened upon the common enemy, thinks he hath deserved little of the Common-wealth, and upon that score they fight. In the time of harvest, when such an accident falls out, they do not meddle with a dead body, but presently as the enemy is vanquished, they fall to their labour again, and they gather up again the Corn they laid aside before the battell, and lay them up; for they hold it no prudence to stay to plunder, when greater businesse doth require their industry, and they hold it ignoble to contest with those that are dead. They feed chiefly on grains of Wheat, Winter Corn, Barley, and hard meat which they delight in. They take great pleasure in Cyprus Nurs, and the tender flowers of herbs that are red. They eat Scorpions (called *Geraret*) saith *Rhasis*, and they feed on the Carcases of Serpents and Frogs when they are hungry. Otherwise they abhorre to eat corrupt and venomous things; nor will they touch fruit polluted with Menstruall blood, nor taste of them. Have not men by reason of hunger been compelled to feed on Horses, Wolves, Serpents, grasse, and dead bodies in time of narrow sieges? That is sufficient to prove their cleanliness, that they carry out their dead in the husks or bladders of trees and Corn, as of old time the *Romans* buried their dead in pots, but they now carry them forth on Biers. They delight to live in clean houses, and for that purpose they do not lay their dung, (that is like

like to Urine) within doors; and when they travell through dirt, and are bedawbed, at the entrance of their houses, they rub themselves clean against some rough bark. They love and take such care for their young ones, that they alwayes carry their Egges in their bosomes, so long as they are little, and not so overgrown that they hinder their labour; but then they lay them up in their deep hollow Cave, that they frustrate the birds that prey upon them, as the Wood-pecker, the Nightingale, and also the Bear. But so soon as the young Pismires come forth of the Egges, they immediately shew them the way to labour and take pains, and if they refuse to work they will give them no meat. Hence you may observe that they set every one his task: The stronger with their mouths, feet, little noses, do cast up the earth, and when they have cast it forth, they make it up in heaps, when they heap it up, they mingle straw with it, that it may lie light, and lie hollow. The wiser sort of them do build, the lesser of them remain in their trenches, and work; the more expert make windings like Meanders and Labyrinths, and frame vaulted Chambers. If they observe any to be idle, they not only drive them out, pinched with famine as a base breed, but they bring him before the door, and calling a Councell of them all, they put them to death, that their young ones may take example, that they may not hereafter addict their mindes to sloth and idlenesse. The dayes appointed for labour and gathering Corn, they set venereous action aside; and chiefly in Winter, (when there is neither sowing nor mowing) they couple together: yet for modesty sake they use venereous actions within doors, as the Bees do, at this time they make much of their Females, and when they are great with Egges they embrace and love them most. Above all they take care (O wonderfull love to their young ones) that nothing may be wanting to their off-spring for food or instruction. He only can doubt of the valour of Pismires who never saw them fight, nor heard the report of their battels. For they are not only full of choler, (as the proverb is) but they have a purpose to fight, so that they either joyn battell with externall enemies, or else hold civill warres amongst themselves, when they want food. For though Pismires never fight when their Granary is full, and their Democraticall Government stands fast whilst they have plenty of food; yet (what we read to have hapned in the best ordered Monarchies) in a dearth, or rather want of provision, they fight desperately for food, and for their lives, and the lesser of them will rebell against the greater, (as being the greater gulphs of the Common-wealth.) It is the nature of necessity to give and not to take Lawes, and then chiefly when the belly a troublesome Client, doth feed on it self, and the guts croke and are empty. There are few juster Kings then *Lyfsmachus* was said to be, nor were there better subjects then the *Athenians*, yet both of them did many things disorderly in famine, and he gained thereby to be branded with the name of a pusillanimous, faint-hearted Prince, and they of rebellious Subjects. Therefore this warre of the Pismires is to be commended, that is not undertaken for a Crown of Ivy, Bayes, or of Gold, or of Grasse, (which was accounted the most ancient) but from intestine necessity, and nature leads them to it; for neither could *Solon* himself endure thirst, nor *Solomon* conquer hunger. For these will dig under all walls, will be held by no bands, and they only know neither Lawes nor bounds. *Aeneas Silvius* relates a strange history of this fight, *lib. de Europa, c. 50.* His words are these. In the County of *Bonomia*, many little Pismires that were hungry, clambered up a dry Pear tree to seek for food, the greater Pismires came upon them in no small number, and these took the meat out of their mouths, and killed some of them, others they threw down, those that were cast down returned to their Ant hill, or fort, in the way they meet with others, and seemed to talk with them, and rip up the injury they had received, and they bring forth all the forces they had, and their companions out of their tents. About two hours almost afterwards, so many bands of the lesser Pismires, and such a mighty Army drew forth, that the whole field appeared black by these black souldiers; they came all well guarded, and compassing the stock of the tree round, they began to climbe up. The greater Pismires when they saw their enemies at hand, drew close into a body to receive the encounter aloft; so soon as the Armies met and fought, the great ones killed abundance of the lesser ones with fierce biting them, and they destroyed all those in a terrible skirmish that first ventred up, that at the root of the Pear-tree there lay a great heap of them slayn. The rest of the little Pismires and the middle Army would not be daunted by this, or run away, but they recollect their forces, and attempt to be revenged, and following more risly, and pressing one Army after another, they mounted up the tree in greater numbers than before, and they bite their enemies on the back, on the sides and in the front, and they forced them to yeeld, and leave the tree. The greater Pismires were much too strong for them, but the numerous multitudes of the little ones prevailed against them, and twenty at least set upon one. This happened when *Eugenius* the fourth was Pope, *Nicolaus Pistoriensis* a most learned Lawyer standing to behold it, and he related the manner of the fight sincerely and truly. *Olaus Magnus* reports the like accident to have hapned at *Upsal* and *Holmes*, before that barbarous and cruel Tyrant *Christianus* the second was driven forth by the Inhabitants of *Smeden*, from ruling over the *Goths* and *Svedes*. In which battel, that must not be forgotten, the lesser Pismires after they had won the field interred the bodies of their fellowes, leaving their enemies exposed to the Crows and Munkins; also they made choice of a high Tower for the place of combat, as if they would with a clear voice call and draw unto them the prodigy of Tyrants and his followers, to see their destiny

destiny revealed, and the punishment that hang over their heads. Also they hurt Elephants and Bears, but not unlesse they be first hurt by them. They afflict Serpents and Dragons and make them mad, but it is either because they hinder them in their labour and stop the way, or because they breath their venomous breath into their caves and turrets. Grasshoppers and Dormice they hate exceedingly, those because they spend the Summer time in singing, these because they lose the Winter in sleeping, for a Common wealth well regulated doth punish idle persons as well as those that are wicked, and the *Spartans* were wont to cast forth those that would not labour. They live very long, and would hardly ever die, unless the Birds did catch them before their time, or the floods and waters drowned them. They are for the most part very healthful, because they observe those three rules of *Plato* very exactly, mirth in labour, temperance in diet, and sparing in venereous actions. For what creature labours more chearfully, diets more moderately, or did nature ever produce that is more temperate in venery? Also there is in them many seeds of domestick discipline, justice, friendship and other virtues; and had we the like, either by nature or by art in us, we would scorn to live basely on the labours of others, and we would refuse to be slaves to our bellies. Moreover they have some sense of future things; for before a famine they labour exceedingly, continuing their work night and day, and every where laying up a great store, as *Juvenal* hath it *Satyr 6*.

Hunger and cold away drive,
And from the Ant learn thou an art to thrive.

Since therefore (to wind up all in a few words) they are so exemplary for their great piety, prudence, justice, valour, temperance, modesty, charity, friendship, frugality, perseverance, industry, and art; it is no wonder that *Plato* in *Phedone*, hath determined, that they who without the help of Philosophy have lead a civill life by custom or from their own diligence, they had their souls from Ants, and when they die they are turned to Ants again. To this may be added, as I related before, the fable of the *Myrmidons*, who being a people of *Aegina*, applied themselves to diligent labour in tilling the ground, continual digging, hard toiling, and constant sparing joyned with virtue, and they grew thereby so rich, that they passed the common condition and ingenuity of men, and *Theognis* knew not how to compare them better then to Pismires, that they were originally descended from them, or were transformed into them, and as *Strabo* reports they were therefore called *Myrmidons*. The *Greeks* relate the history otherwise then other men do; namely, that *Jupiter* was changed into a Pismire, and so deflowred *Eurymedusa* the mother of the *Graces*, as if he could no otherwise deceive the best woman, then in the shape of the best creature. Hence ever after he was called *Pismire Jupiter*; or, *Jupiter King of Pismires*. For the generation of Pismires are endowed with so much virtue and justice, that they need no King to govern them, for each of them can regulate his own passions; or if they have any King, it is the Supreme *Jupiter*, that governs all, who is deservedly thought to be the Fountain and Authour of all virtue both in Men and Pismires, and all other creatures. For there is none amongst men that doth govern better then the Pismire; and we that should teach them (as saith *St. Hieronymus*) may learn of them divers things that are necessary for our souls and bodies. For when contrary to their nature and industry they hide themselves, we are certain that rain is not far off; and when we see them running here and there, and carrying their egges before them, we are warned thereby of great winds and tempests. Also those that are well acquainted with Country learning, when they see the Pismires run here and there, extreme fast, twice as much almost as at other times, and take such huge pains in gathering and storing up Corn, they are warned of a famine at hand, and so buy up all the Corn they are able. For they more rightly and certainly by their naturall magick foresheew Tempests, then our Soothsaying Almanack-makers, that are derided and exploded for vain fellowes by all godly and truly learned men. For let *Ennius* be heard;

They that are out shew other men the way,
And promise riches who have none to pay.
To whom they promised to them they pray.

Nor doth *Accius* lesse elegantly describe them, who was the chief in writing of Tragedies, in his *Attich* we read thus;

I trust no Wizards, who have learn'd the skill,
With gold their houses, others ears to fill.

They do better in my opinion who observe the Pismire, and grow rich by following his manners in labor, industry, rest and study. We read of *Midas* that he was the richest King of all the West, and when he was a boy, the Pismires carryed grains of Wheat into his mouth whilst he slept, and so foresheewd without doubt that he should be endowed with the Pismires prudence, and should by his labour and frugality gain so much riches, that he should be called the *Golden boy of fortune*, and the darling of prosperity. *Ælianus*. And when the Ants did devour and eat up the live Serpent of *Tiberius Caesar*, which he so dearly loved, did they not thereby give him sufficient warning that he

he should take heed to himself for fear of the multitude, by whom he was afterwards cruelly murdered? *Suetonius*. They do teach us by their example of labour and virtue, both because they do inculcate unto us parsimony and perseverance, and also because when they are grown rich they maintain perpetual and inviolable friendship. For though at such a time one man is a wolf to another, and the desire of having more increaseth with gain, (which the *Greeks* call *πλεονεξία*, Covetousness) yet as the *Comedian* speaks;

*In good or bad what ere it be,
The Ant with Ant doth still agree.*

And they never fight and jar but upon occasion of extreme famine. *Horace* chargeth them with Covetousness, because they alwayes heap up more; but since they do that for the common welfare, that reproach of his is not their fault. But they eat Serpents, and live sometimes on venomous things: I grant that, and may be they use it for their Theriac, and are not therefore Pismires to be commended? Yes as well as the Storks, they ought to be fed from the common Treasure, and I might say to be adored as well as the *Indian* Rat *Ichnemou*. In *Isthmus* the Priests sacrificed Pismires to the Sun, either because they thought the Sun the most beautiful, and therefore they would offer unto him the most beautiful creature, or the most wise, as seeing all things, and therefore they offered unto him the wisest creature. But you will say, they are most hurtful creatures to Vines, to Dittany, to young shoots, and to many tender plants, and *Pliny* calls them the plague of trees. But *Gellius* calls them more properly the revengers and judges of idle people; for they by their labour call us out of our lurking holes, and drinking houses, to till our grounds, and take care of our Orchards more diligently, and to exercise our wits, and to be more industrious in our business, and to do what is just and equall. Go forth then idle companions, and powre on a little hot water wherein lime hath been infused, and believe me not, but you shall drive all Pismires away, and shall infuse more life and spirit into all thy plants. *Origanum*, brimstone, Asa, Nitre, Snails-shells, Lupines, Lazerwort, wilde Cucumbers, Bils-gall, boyl, and cast on, or but in fume or sprinkled: also many things there are ready to be had for one that is diligent and laborious, whereby you may quickly drive out this plague from your grounds, and you may expect a great retribution for your pains, abundance of fruit. Moreover all those things that drive away Wasps and Hornets, that we spake of before, will afford you a sufficient remedy, and will also kill all the Pismires. Yet in truth, thou sluggard, thou hast more need to nourish up this creature and set up for it a statue of gold. For so of old time they are said to have done, when they worshipped the Ant, in an hieroglyphick, holding three ears of corn in the mouth of it, as being an emblem of divine providence, and labour, and of household care. For they are, to use *Aristotles* words, without any King, and under a popular government; yet every one of them is for himself a father of his Countrey, and they do to their power increase the common good as if it were for themselves in particular. But if you object, that the Pismires by biting cause redness, tumour, tickling, and then a grievous pain where they bite; I do not wonder at that; I rather wonder at this, how thou canst look upon them, and not blush extremely, for thou canst not chuse but blush to see such great industry in so small a creature, and to behold the watchfulness, labours, journeys, sweat, and toil that he is busied in. Yet they do not wound idle people so much (whom alone they are said to sting) but it will be cured with an Emplaster of *Varignana*, made of Flies and Pismires mingled together; for as Scorpions, so are they the remedy for the wounds they make; and they bring their cure along with them when they bite. *Pliny*, *Columella*, *Arnoldus*, *Helianus*, *Albertus*, and *Vitalis*, will direct you in other helps, but you must not draw them out and apply them, without using the prudence of the Pismire. Will you give me leave to reckon up the infinite benefits you may receive from them, for this small detriment you accuse them for? Now listen what the Ancients write concerning the virtues of them, and judge uprightly concerning it. For they are not only meat for Serpents, Dragons, Beares, Locusts, Rats, Dormice, Chameleons, Lapwings, Woodpeckers, Larks, Nightingales, Pheasants, Wagtails, Hens, sometimes to satisfie their hunger, sometimes as remedies to cure them of surfets, as *Pliny*, *Solinus*, *Plutarch*, *Palladius*, *Eustathius*, *Bellonius*, *Albertus*, and experience do witness: But also the Inhabitants of the Countrey of *Mangi*, do feed on red Pismires seasoned with Pepper, and they are their greatest dainties as *Nicolaus Venetus* doth testifie. Also they are good to catch Locusts, and to bait for many fishes, chiefly the Roch. As concerning Physick, there are but a few diseases that these creatures, as the hand of God, do not yeeld some help unto. Doth a Feaver burn and scorch thee alive as it were in the Engine of Perillus? hearken, and I shall tell thee of an admirable water to quench that fire, and most effectual against it, as *Gesner* received it from a friend: Take fountain water one pound, honey three spoonfulls, shake them in a can, and set them in an Emmets hill, so that Pismires may easily fall into it; when you find that so many are fallen in as will thicken the water, shake the Can, and as you use to do in making Rose-water, so distill them. The dose is half a spoonfull, or more as the Patient can endure it by reason of his force more or lesse, it will wonderfully provoke vomiting, and will also evacuate the matter of the disease by Urine. *Pliny* is the Author from the old sayes, that a *Quotidian*, *Tertian*, *Quartan*, and all intermitting Fevers will be cured, if the sick cause the parings of his nails to be cast before the entering of the Ant hill, and if he catch the first of them that layes hold of them, and bind him up and tie him about his neck. Art thou troubled with pains in thy ears? go to, fill a glasse with Emmets and Emmets eggs, and stop it well, and bake it in an Oven with

Their Physick
call use.

with the bread, till it be as hot as the bread that begins to heat ; then shall you find a water that is very usefull to cure the pains in the ears if it be dayly dropped in. *Is there a cloud before the fight ?* presse out the juyce of the red Emmets, and drop it in, it doth corrode with some pain, and wholly extirpate it. *Erosus, Trotula, Theophrastus.* Emmets egges beaten and put into the ears, remove all deafness quickly. *Marcellus.* Some bruise them and press out the watry substance, and drop it in. Some infuse them in a glasse vessell in Oyl, and boyl that on the fire, and powre that into the ears.

If Urine be retained and cause the *Dropsie*, drink twenty Pismires, and so many egges with them in white wine, and they shall help you. Also their egges distilled do much when Urine is stopped. *Leo, Faventinus.* A Maid that cares for her beauty, and would make the circles of her eye-lids black, Emmets egges bruised with Flies will perform that, and give them their desire. Some again either through age or disease (to use the Poets phrase) are beaten in their property, and have lost their generative power, that they cannot do the office of a husband if they would. Some Authours commend to these oyl of Sefamum with Emmets egges bruised and set in the sun, if the yard and testicles were anointed with it. To this oyl some add Euphorbium one scruple, Pepper, Rew seed, of each one dram, Mustardseed half a dram, and again they set it in the sun. *Rafis.* *Arnoldus* in this case commends black Ants macerated with oyl of Elder. *Nicolaus* mingleth it with roots of Satyrium ; and others do give the distilled water thereof to those that are fasting. *Gesner* in *Euonymus* describes a water conducting thereunto ; Take saith he, a pot besmeered within side with honey, and half full of Ants, then add long Pepper, Nutmegs, Cardamon, Pellitory of Spain, each one pugil, Butter what may suffice, and digest them fourteen dayes in horse dung, then distill them in a Bath, and give a little duly to be drank fasting. Others, saith *Merula*, add Comfery to oyl of Pismires ; others *Borax*, or root of Masterwort with Wine when the impotent man goes to bed, and thus they affirm that men may be cured of feebleness, and women of barrenness. But I wonder at the force of Pismires in this case, for *Brunfelsius* writes that but four Ants taken in drink will make a man unfit for venery, and abate all his courage thereunto : yet he will maintain that Emmets with common salt and egges, and old hogs grease, wrapt in a cloth and laid on, will cure the pain of the Hip-gowt. *Marcellus* saith, that if they be applyed with a little salt, they are a present remedy for a Tetter : Also as *Serenus* relates, they are good against scabs and itch from an inflammation of blood ;

*The dust in Emmets bills doth deep ly,
Being mingled with oyl, will help it by and by.*

Also *Arnoldus* reckons Emmets egges amongst such things as take off hair ; and commends water distilled from them against *Noli me tangere*, and all corroding Ulcers. *Albertus* thinks that drank with Wine, they do powerfully dissipate winde. Reckon how many Warts you have, and take so many Ants, and bind them up in a thin cloth with a Snail, and bring all to ashes and mingle it with Vinegar. Take off the head of a small Ant, and bruise the body between your fingers, and anoint with it any impostumated tumour, and it will presently sink down. *Nonus.* Also God, that I may omit nothing, by the biting of Ants called *Solipuge* (it is a kind of venomous Ant) drove the *Cynamolgi* (a slothful and idle people of *Aethiopia*) from their habitations, and destroyed them quite. *Pliny.* Some think they should be called *Solifuge*, but *Cicero* calls them *Solipugas*. I have a few things to speak from Authors, as from *Antibologus, Apionius, Natalis Comes* *μυρμηκονμαχαία*, and *Moichea* a witty Book of the same argument. And *Aratus, Herodotus, Strabo, Aristophanes, Rafis, Aggregator, Beroldus, Ryffius, Zetzser, Arnobius*, have by the by run over the natures of them, and their polite life. But because they add but little to what hath been said, I would no longer play the Pismire, lest seeming to be eloquent I might grow impertinent, and searching every creek too narrowly, I should make more gaps. God grant that we whom God hath commanded to learn of Ants, when we are idle and mind nothing but our bellies, may by his good guiding learn of them, and he instructing us, we may perform our duty. It is a small creature, and contemptible for its magnitude, yet we must know that goodness is not in greatness, but what is good is to be accounted great. I have said.

CHAP. XVII.

Of the Glowworm, and the female Melo, and of Anthremus and the field Chislep.

OF-times those that are of a great faction, and of noble descent, will scorn to marry with one of a common family. Yet the Poets write that *Jupiter* did not disdain to embrace ordinary women ; and the Cicindela or Glowworm, and the oyl Beetle or Melo, (though they are of the winged order) are not ashamed to couple with others that want wings. And for as much as these females are endowed with the same force and dignity by nature, which is seen in males, I know not why they should refuse or be weary of their chance, and of their female. When as (if their wings be taken off) they agree in the same endowments of their minds and bodies. We spake abundantly in the first Book, concerning their form, figure, manners, virtues,

virtues, use, when we speak of their males that have wings; and though this Treaty is allotted for Insects without wings, yet I would not artificially separate the females from their males, whereas naturall love hath from the beginning united them together.

I give you here the picture of *Amibrenus*, which the Greeks call *Anthrenus* without wings. Some conjecture that it is a creeping Hornet; others think it is a kind of the Spider *Phalangium*, which *Pliny* saith differs from a Hornet only in want of wings. It hath a crooked nose, and forked, and the face looks upward. It perfectly represents that horned Owl that we saw in the low Countries. It hath black eyes, a breast very hairy and yellow, the feet are yellow at first, then brown; the rest of the body hath 8 junctures that are yellow from red, which is much adorned by black spots on the back; from the top of the nose, sailyards or horns of a yellow colour grow forth; they are all hairy and flexible, yet are they something hard in feeling. He bites so that it is hard to cure it, yet it seems not to be so deadly as the biting of the *Phalangium*, nor is it yet so gentle but that the venom of it exceeds the Hornets. If hereafter I can discover any thing more concerning the nature of this little creature, the conditions and use of it, I shall willingly do it for the publick good; for far be it from me to conceal any thing that may make for the advancement of Learning.



From the similitude this Insect hath with a *Chistep*, we call it the field *Chistep*; for it is found in Corn fields; it differs from the rest only in the number of its feet, (for it hath but six feet that are very small and black) The neck of it is very short, the body something broad and compact, the tail somewhat painted. *Pennius* saw one in *July* about *Colchester*, or else he never saw it. What Physicall use it hath it is yet unknown to us.

CHAP. XVIII.

Of Mineral Worms with six feet.

IN *Pennius* his papers concerning the nature of Wormies, I did for a time wonder at his opinion, when he spake of Wormes in stones, and he averred that he saw little ones with six feet in old rotten stones. For I had received from all Philosophers, that all things that are very bitter, salt, sowre, sharp, oily, hot, cold, solid, hard, though they may corrupt in time, yet they will breed no worms, and therefore *Theophrastus* calls them *azca*, not that they want life, but because they breed no living creatures. I began to weigh the matter narrowly, and to put into an equall ballance, without fraud, all their opinions; at last I found that our Ancesters were here and there most foully deceived, and I ascribe more to mine and *Pennius* his eyes, then to all their words. Tell me in good earnest, is there any thing more bitter then Gall or Agarick, saltier then the Sea, more tart then Leaven, more sowre then Vinegar, more hot then fire, or more pure and cold then Snow congealed? yet certain it is, that Worms breed out of all these: and it shall appear sufficiently by the sequell of the story, that Worms are bred out of stones, neither driftnesse, nor solidity, nor coldness, nor want of heat or moisture can hinder it: Nor will I allow of that, That Nature produceth living creatures by a mixture of heat and moisture, and moisture is alwayes as the matter for heat to make a concoction of. For not only where moisture affords matter, and heat doth manifestly concoct it, are living creatures breed; but there also, (that we may not seem to set bounds to the power of God) where we see with our eyes that there is neither of these, nay where we may conceive that they are both absent. The generation of the creature called *Pyrgonius* in the flames, of *Oripa* in the most frozen snow, will evidently prove this, and that was the cause that I sooner subscribed to the generation of Worms in stones. Moreover, they that with their graving tool, do make rough their Millstones that are grown over smooth by using, find Worms oft-times bred in them, as the Brother of *Pennius* testified. *Felix Platerus*, the worthy President of the Physicians at *Basil* reported to me, that he found a great live Toad in the middle of a hard stone that was saw'd in sunder, that was bred there. And that excellent man *Zuingerus* relates the same thing of a Scorpion. And indeed these things had seemed to me incredible and monstrous, had I not known the same thing to have happened in a Quarry of *William Cave* a Noble man of *Leicester*. And neither Philosophy nor reason is contrary to this opinion, since in the earth, the mother of all things, there is all kind of heat and moisture, and all kind of spirits; and (to use the words of a principall Physician) all things seem almost to be

full of all things. Nor can I see the reason why stones should rather be bred in living Creatures, then living Creatures in stones; and as I shall easily grant that there are Minerall vapours in us, so I shall not fear but I may grant that there are animal spirits in them, and yet not wrong the truth. For they have invisible and secret passages, nervs, veins, and turnings, whereby they either draw to them strange moysture, strange seeds and different vapours, or else receive them being brought thither. Some say, that the marrow of a mans back will produce a most venomous Serpent. *Cardanus* saith that Worms will breed of the ashes of Worms. Many Writers besides *Pliny* report that Scorpions will breed from *Basil* buried between Walls. All men do see that stones are bred in the air: And *Bonus Ferrariensis* is not ashamed to say that it hath rained Calfs, bloud and stones, which things though they sound harsh, and not to be true, yet I dare not rashly deny it, nor doth this at all impair the opinion we hold concerning Worms bred in stones. And if the reason of this seem to ly so deep, that it is too difficult for us to search out; you must think that truth lyeth so deep, and covered with so much darknesse, that it could not be found out till of late years. And in the generations of these things, (which God only knowes) truth will never shew it self but by conjectures, similitudes, collations, proportions, and observations. God doth here seem to scoffe and deride the arrogancy of worthlesse men, that dare look asquint into the work-house of Gods Creation, and are not afraid to inquire into the reasons, and to search and trie, and to attempt to imitate the works of God. I wish we could be admonished either by the punishment of *Salmonus*, or by the counsell of *Solomon*, to learn more modestly: For that is the only way I know to the true knowledge of things, and the safest for us to walk in.

CHAP. XIX.

Of Worms in Vegetables, that have six feet, and first of Worms in trees.

WORMS in Vegetables are either Worms in trees, or in shrubs or Pulse, or Corn, or Herbs. The Tree-worms some of them feed on the wood, some on the bark, some on the leaves, some on the fruit, and of all these we shall speak in order. Those that corrupt or spoyl the wood are of divers sorts, for those that breed in green and growing wood are called *Annas*, those that breed in dry wood without sap, are called *εξυλα*, those that are bred in solid and dry wood are called *Thripes*, those that breed in hotter kindes of wood are called *Termites*, those that breed in saw-dust are called *Cossi*, those that breed in planks of Ships are properly called *Teredines*. *Annas* it may be took their name from *ἀννεν*, for they do bite and eat living trees, so that oft times about their roots a great deal of powder and dust may be seen, as if it came by sawing. This Worm hath an ill-favoured head, of divers colours, covered with a covering, and he can put it forth and draw it in at pleasure. His feet are on the hinder part toward his tayl, as the *Cossi* have theirs on their breast, the rest of the body is covered with a sandy Coat, as it were their shell, and when they put that off they die, as Snails out of their shells.

εξυλαον.

επι.

In that time which Nature hath appointed they grow into a sheath like to an *Aurelia*, but what winged Creature cometh from that afterwards I could never yet observe. This is far greater than *Cossus*, by reason of its unsatiable eating, and is not so dainty. The Wood-peckers and other Birds that spoyl the trees do make holes in the green trees, and by the sound finding out the hollow places, they dig and pierce in there, till they come to those devouring Worms, and they devour them. For they exceedingly delight in this kinde of meat, and for love of it they will sometimes spend whole dayes in digging of a tree. *εξυλαον* is found in rotten and hollow wood, which will make no noise though you strike it with a staffe, it is very like to the *Cerastes* in *Theophrastus*, and the *Pitiocampa* of the Physicians, but that it hath only three feet on both sides. *Gesner* attributes to it a venomous and constant evil smell, and a very corroding faculty. *Thripes* are thought to be named from *terendo* wearing, they are little Worms very frequent and common, their bodies are white, their heads black, or brown from red, with six very slender feet neer their neck, and blackish with a little red, like to the Worm in a Hazel-nut for the fashion of their bodies, but they are shorter and smaller in the middle; they love no black wood, but are bred only in wood that is whitish, (as is the white sap of Timber, Hazel-nut trees, Birch, Cinamon, the Plain-tree) and they penetrate into these when they are partly dry and solid, and drinking up the moysture they have, they make them rotten. I passe over the contests between *Pliny*, *Hesichius*, *Theophrastus*, *Plutarch*, concerning the signification of *Thrips*, whereof some are so negligent, some so curious in observing the properties of words, that in describing them they are very obscure, and as good as nothing. The Ancients used for Seals, the wood the *Thripes* had eaten, and chiefly the *Laconians*, as *Hesichius* testifieth. Whence *Lucian* in *Lexiph.* I keep them under seals eaten by *Thripes*. For these Worms as they eat forward, do engrave divers characters of herbs, and forms of living Creatures, and so exceed the Divine sculpture of *Phidias*, *Praxiteles*, *Myrmecides*, *Bupalus*, *Sophoniscus*, *Anthermus*. *Galen* speaks of a man that made Rings, l. 17. de usu part. who

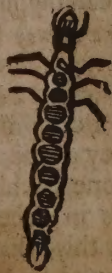
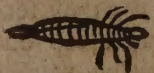
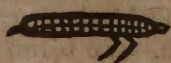
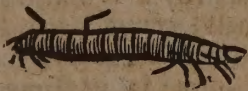
who on the broad part of a Ring engraved exactly, to a wonderfull demonstration of his art, Phaeton with his Chariot and Horses, cast down headlong. But the Worm *Thrips* hath neither graving tool nor Iron instrument, but with his soft tooth engraves most solid Signets, and frames wonderfull pictures of all things sometimes, only by the conduct of Nature. When woods are dried by overmuch heat of the Sun, they produce and feed a Worm called *Termes*, which as *Servius* saith, being bred out of the very pith, at last consumes its mother, and will not touch the hard baky substance. A very ungratefull little Creature, and so much worse then other Worms, the more it is hurtfull to the heart and vital fountain of trees: For they live sometimes when their bark and hard wood is devoured, but when the pith is wasted they die presently, and Nature can never cure this wound. They are like the

Termes.



Cossi.

Cossi in shape of body, but they are farre lesse, and much softer. The name perchance comes from *Kis* a *Greek* word, as if you should call it a Wood-weevil. For the Philosopher saith that *Kis* is a little Creature bred in wood, like Worms bred in Corn; the *English* call them *Timber-worms*, because they are seldome in any wood but that which is cut, and prepared for building. Their bodies are full of wrinkles, and hence some *Roman* Consuls are called *Cossi*. The greater *Cossi* are almost as thick as the little finger, and as long as three fingers broad, of a whitish colour, almost like to the greater kinde of Caterpillars; wherefore the great ones are called by *Pliny Cossi*. They have three feet on each side that are pendulous, not farre from their heads, short, slender, and black. The body of them hath twelve rings, those toward their tails are alwayes smaller and shining; their heads are somewhat thick, of a dark colour, and the nose is small, forked, sharp as a Spear, black, with two plates in the forehead, neer the mouth there are small hairs that are pointed, all the rings in the sides are severally marked with red points, a little hollow. It is a Creature that creeps very slowly, and the motion can hardly be perceived, wherefore *Festus* calls them *Cossi*, great bellies, and sluggish Creatures. He hath very little eyes, a round back, a belly something hollow, of a waterish whitish colour; they seem to be fat, and very soft; they breed in wood newly cut, but before it ought to be. But if they have been long cut, and have lost much of their moisture, the small *Cossi* only breed in them, that differ from the great ones only in bignesse. The Ancients in *Pontus* and *Phrygia* (as *Pliny* and *Hieronymus* note) fed on these as the most dainty meat, and for that use they fattened them with meal, that they might be fed Worms. *Pliny* saith they serve also in physick; for they heal Ulcers, increase milk, and in Oyntments they cure creeping sores, which *Albertus* also confirms. The *Teredines* have a very great head, considering their bodies, they gnaw with their teeth, and pierce into Okes, as you may know by the noyse: But *Theophrastus* thinks that these are only found in the sea, and men think there is no other Worm can properly be called *Teredo*. We remember, that in the Ships of the *Venetians*, that had long stood in the Havens of *Alexandria*, that little ones were found, that were a cubit long, and as thick as a mans thumb, such as that famous Sir *Francis Drake* another Sea *Neptune* brought home with him, in his Ship that had gone over the world, and was grown rotten and spongy. We saw other *Teredines* an inch long, like to Worms bred in flower; they have a red body, a yellow shining head, a little red, a forked



mouth, from the lips whereof little thorny hairs come forth, they have three feet on each side, the incisions of their backs are eleven, something red: The rest of the body is of a watry yellow, and shines, the greater they are the more darkly they shine, of a Crimson colour, and the lesser they are, the whiter they are. The *Italians* call them *Byssam*, the Spaniards *Bromam*, from the eating of them, for they eat Ships, and penetrate them; whence *Aristophanes* in *Equitibus*, brings in a rotten Galley, speaking thus, *I being eaten by the Teredines am accused for it*. And *Ovid* saith thus, 1. de Ponto. *It's eaten as a rotten Ship with Worms*. By *Pennius* his leave, the *Teredines* eat not only Ships, but beams of houses, so the Scholiast upon *Homer* saith, (*Odyss.* 10.) The words are these. *Melampus* whose ears *Draco* had picked, that he might understand the voices of wilde beasts, was cast into prison for the Oxen of *Iphicus* he had driven away; where when he understood by the speech of the *Teredines*, that there was but little of a main beam left, he cauted himself to be brought forth, lest it should fall and kill him; and whilst he was lifted up by a man and a woman, and got forth, the house fell, and both of them were slayn. That is also apparent out of the chief of the *Latine* Comedians, when he brings in *Philolaches* a young man, speaking to them in these words;

These three
were found in
rotten logs.

I found this in
the root of a
great Mallow,
it feeds on
earth-worms,
biting them
continually,
and sucking
them till they
be dry.

If tempest comes, *Teredo* enters,
And the rain at all adventures,
Gets in, and rots the walls and wood,
Makes work for Carpenters, that's good, &c.

Z z z z 3

These

These hurt especially great trees, as the Oak, the Pear-tree, the Apple-tree, the Chestnut, the Larch, Walnut, Beech, the Medlar, the Elm, and broad leaved Willows: in which cut unreasonably, or planted, a soft and ill fatty humour breeds (which Wood-men call, the sap, and the whire) which is the matter and nourishment of all the Terebrines. Trees that are drier, more bitter, more oily and hard, are thought to be so much the freer from these Worms: yet sometimes they will offer violence to the Cypress-tree, the Walnut, the Guaiacum, the Tiele-tree, and to Ebony it self. The manner of their breeding in wood is thus: Many are bred within, and do not come from without, and they eat up their original, that of what they were bred they may live by the same. The material and conjunct cause is the sweet moisture of wood that is fit for their nourishment, being corrupted, even as of sweet flegm, worms are bred in the belly. Now that sweet humour putrefies from a twofold cause, either by distemper, or solution of continuity. By distemper the quality is corrupted, and by cutting not only the inbred humour runs forth, but some strange humour enters by rain and mists, and corrupts the wood. In old spongy, and dry trees, by reason of age, are the greater Worms, both because the radical moisture is more diminished, and because the distemper, heat and moisture that are strangers, are more augmented: as oft-times old men are troubled with cruel scabs, and eating sores, and Worms. Wood lying open to the Moon in the night, sooner breeds Worms, because of the over much moisture of the air, and in the hotter Sun, from too much heat. Those that breed within, breed at all times, but for those that come from without, and are bred of the seed of Gnats and Flies; the Spring and Summer are the chief times for them; for in Winter they are frozen and dye. Also the climate and the ground are of great force, for the Irish wood seldom corrupts, there is such vertue in the ground, and in *Arabia*, in the climate. Now we shall describe the particulars.

Fig-tree
Worms.

Of those Worms that are in Fig-trees, some are bred of the trees themselves, and another is bred withall, that is called *Cerastes*. For since the greatest part of Worms do differ in shape and form one from another, yet the principal difference amongst them is this, that those which are bred in one kinde of tree or fruit, if they be translated to another kinde, they will not live: yet men affirm that *Cerastes* is bred in the Olive-tree, and will breed in the Fig-tree; wherefore the Fig-tree hath its Worms, and sends forth those also that it receives from other trees: yet they are all like to *Cerastes*, and they make a small shrill sound. *Sypontinus* saith he hath two horns on his head: when he hath eaten the place so hollow that he can well turn himself, he begets another little creature, and changeth one kinde into another as Caterpillers do.

The Service tree is infested with red Worms, and hairy, and then it dyes. Also the Medlar-tree being old produceth such Worms, but they are greater then in other trees, as *Theophrastus* writes. The sap produceth a Worm like to a *Thrips*, from whence Gnats and kindes of *Phaenici* are bred, wilde Pear-tree Worms, some sort of living Creatures that feed on wood, saith *Hesychius*, for they extremely hurt wilde Pear-trees. A little Worm in the Oke-like tree (*Suttonius* calls it *Galbus*) is wonderfull slender, whence the first of the *Sulpitii* was called *Galba*, from his extreme slenderness. The Palm-tree produceth the *Carabus* (as *Hesychius* and *Aristotle* testifie) a Worm like to Sea-lobsters, having only six feet; by this means the *Carabick* Worm of *Hesychius* is known: *Theophrastus* writes that they cut off the small boughs of the Cinamon tree, two fingers length, and when they are green they sow them up in Ox-hides; then they say that these boughs corrupting will breed Worms that eat the wood, and will by no means touch the bark, because it is sharp. This wood was seen in *Pennius* his house, eaten by a Worm that was of an Ash-colour, it was not very hard, but had neither taste nor smell; contrary to that some Portingal Merchants and Quack-salvers that are ignorant of simples affirm. The Worms called *Rance*, breed in the root of the Oak, and hurt it. *Pliny* saith, an Olive-tree is ill planted where an Oake is dug up, for the Worm *Rance* left in the roots of the Oak, creep into the roots of the Olive-tree, and endamage them. *Johannes de Chaul* affirms the same. The Ancients reckon up but few worms that feed on bark, except the *Scolopendra*, *Juli*, and those Moths that are like little Scorpions, whose nature we explained in the Chapter of the Scorpion. The Germans call these *Clops*, they are not much greater than a Flea, of a red colour, with ten feet, they are frequent in the wood and houses of the *Muscovites* built of Pine-tree: in the day they feed on the moisture of the wood that sweats forth between the bark. In the night they creep out, and if they light upon men that are asleep, they will suck out their blood, biting painfully. The Worms called *Syrones* feed on the leaves and flowers of trees, how small they are in thickness we may conjecture from this, that it creeps between the membranes of the thinnest leaf, digging, and not hurting either outward skin. Next to the Worms in vinegar (saith *Joach. Camerarius*) I never saw a Worm so compact. The mines that it makes do sometimes represent the most fine lines and fibres. They hurt exceedingly the leaves of the Cherry-tree, and the Apple-tree that are spotted; and when they are full they fall off; and they seem to be formed of many Pompion-seeds glewed broad waies together, but that they are far smaller. From these when they are dead another small Insect ariseth, as they grew from another. *Ageri*, are like to *Syrones*, which the English, whether they breed in wood, or bark, leaf, or flower, or fruits of trees, as in Cheese or Wax, call *Mites*, that is very little ones, or *Alomes*; they differ from *Syrones* by this, that they seem to be made of many *Acari*. But the *Acarus* it self is a round white six-footed little creature like to a little Lowse, of almost no substance, that if you press it violently between your fingers and your thumb, it is so small that you cannot feel it nor hurt it. *Antigonus* and *Aristotle* call

call it *Jupiters Butler*, it may be because it will eat with its nib into the thickest Wine-cask. And certainly if there were not something of God in it, and of divine vertue, how could we finde to great force in so little and almost no body? Also in the leaves of the Beech, little knots are found wherein there are small Worms. The fruits of trees (as *Theophrastus* saith) are sometimes worm-eaten, when they are yet green, as we see in Services, Medlers, Pears and Apples. The Olive both in the skin and kernel hath Worms called *αἰσχροί*, and it is a mischief not to be neglected (saith *Theophrastus*) for it will not only waste all the oyl and the juice, but will eat up the stones that are so hard wherein the kernel is. Also little Worms are found in Galls that are eaten through, and they are bred in the very inmost pith, out of which afterwards ariseth a kinde of Flies and Gnats, as *Valerandus Doures* an Apothecary of *Lions* testifieth. Moreover, in Oak Acorns, and spongy Apples, sometimes Worms breed, and Astrologers presage that year to be likely to produce a great famine and death. I need not contend that there are Worms in small Nuts, for all men know it: especially when the Summer is moist, and the wind blowes from the South. It is strange that *Ringelbergius* writes, *lib. de experiment.* that these Worms may be fed to be as big as a Serpent, with sheeps milk, yet *Cardanus* confirms the same, and shewes the way to feed them, *Lib. de rer. varietat.* There are little Worms bred in dry Figs like those in Hazel-nuts, with a black head, and the rest of the body is a whitish yellow, but they are smaller. *Bellonius* saith he found that Cedar as well as Pine Apples were subject to Worms. They are for thickness like to the female Glow-worm, a fingers breadth long, with a head like an Emmet, but more compact, with twelve incisens; on each side it hath three feet near to the head, and two circular foreyards, with a thick belly, and a sharp tail. Also in the hard and woody hulls of the Witch-tree, there is a broad seed, and oft-times eaten with Worms: and you shall finde there oft-times their very Aurelia's. Lastly, no fruit can be named, but some Moth or Worm will infest it; even Manna it self sometimes (which the Poets feign to be the meat of the gods, the Scriptures maintain to be the meat of the sons of God) corrupted and bred Worms, when contrary to Gods Word it was laid up till morning.

CHAP. XX.

Of Worms of Fruits, Pulse, Corn, Vines, Herbs.

UPON the lower Willow (especially when swelling galls break forth) sometimes there are found like to roses, that are full of Worms, as it also happens in the leaves of the Mastick-tree. *Quinqueranus* saith there are two kindes of scarlet Oak, one like a great tree, the other a small shrub, about a foot and half high; it spreads very broad, and the leaves are smooth and shining, with a numerous thorny beard in the circumference rising up with many fientes like to the Rose-bush. Our Countreymen call it a Beech-tree, though it be nothing like to a Beech-tree. It growes on plain ground, but that stands high, with little dry hillocks, and unfruitfull: when the shrubs are bedewed with showres in the midst of the Spring, the Cochineal begins thus: When the lower stalk divides into two branches, and in the middle of these there comes forth a thing that is round, and of the colour and bigness of a Pear, they call this the Mother, because from this the other grains proceed. Besides every one of these shrubs hath commonly five Mothers, which at the beginning of Summer and in hot weather put forth a great company of little Worms, and they cleave in the top. A new off-spring of shoots growes up severally on high of a white colour, that produce living creatures. But wheresoever they meet with the hollow places of the twig budding where the Worms are, they fall down, and become as great as Millet-seed. Then growing up more freely, the white colour changeth into ash-colour, and then they appeare no more living creatures, but again like unto Pease. Then those grains being ripe gathered, now great with colour'd Worms: whilst they are carried to the Merchants, the thin skin that goes about them breaks. The price of a pound of these Worms that are come forth of the skin is a gold noble; but that part which is yet in the skin, is sold for a fourth part of it: the mean while the little Worms are as if they were dead, and move not. But when the season of the year comes, they are hastned by putting them in linnen cloths, and exposing them to the Sun. Then but feeling the heat, they presently creep forth, and strive to fly away; but by the keeper of them, who watcheth them continually, they are shaken back into the middle of the linnen cloth till they die; whilst this is doing, and for three daies after, there is so sweet a smell and delightful, that no Civet, Musk, or Amber-greece, nor yet Lemon flowers can surpass it.

But if any grains escape from him that gathers them, they presently send forth a numerous army of winged creatures into the air.

It was observed one year, that in a stony field in the Countrey by *Arles*, the profit of this increase was reckoned at 11000 crowns. So writes *Quinqueranus*. And *Carolus Clusius* saith, that in his time, the same fashion of gathering Cochineal was observ'd about *Narbon* in *France*, and also in *Spain*. For they have plats of ground in the open air provided for the purpose, with the sides something high, and they lay a linnen cloth upon them and pour forth the Cochineal upon that; the keepers stand ready about it with little wands continually when the Sun shines very hot, and they strike

strike the outides of the linnen cloth, that they may drive back into the middle of the cloth these little Worms that hasten to come forth. But *Petrus Bellonius* l. 1. observ. c. 17. tells us of another manner of preparing Cochineal.

There is (saith he) in *Crete* a great increase of Cochineal: shepherds and boyes do gather it. They finde it in *June* upon a small shrub, of a kinde of holm that bears Acorns sticking to the stock of that shrub, without any stalk, and the colour is ash-colour with white, but because the leaves of that shrub are full of prickles like to Holly, the Shepherds have a staffe in their left hands to press down the boughs, and hold them so; and in their right hands they have a pruning knife, wherewith the cut off the smal boughs, from which they pull off little round bladders as great as smal pease, on that side they grew to the wood they are chapt and open, full of little red creatures smaller than nits, that fly forth at that cleft, and leave the bladder empty. The boyes when they have gathered their Cochineal, bring it to the Treasurer, and he gives them victuals for it. He parts these little creatures from the bladders with a sieve, and then he takes them gently with the tops of his fingers, and makes bals of them as great as Hens eggs: for should he press them too hard, they would turn to juice, and the colour be lost: wherefore there are two kinds of dying stuffe, one of the pulp, another of the bladders, and because the pulp is more usefull for dying, the price of that is four times beyond the price of the bladders. *Gesner* also saw small Worms of a yellow and red, upon the uppermost boughs of the Juniper-tree; in the sponge of the Eglantine or wilde Rose, white worms breed, from which *Aristotle* saith that Cantharides do come. *Gesner* saith, that after two moneths the sponge being kept in a stove will send forth a great number of little live Worms. Also the Thorn and the Bramble, the Rose, Heath, Broom, tree Trifoly, Raspis, the Myrtle-tree, Capers, Bush, the Goosberry-bush, the Palm-tree, the white Thorn, the Privet, Park-leaves, Licorice, and indeed every shrub, and under-shrub is eaten by Worms: nor could *Palma Christi* (which afforded shadow to *Jonas*, that divine Prophet, when he was very hot) escape this plague, as we finde it written. Also Pulle, the gifts of *Ceres*, are (to use the Philosophers word) most Worm-eaten, but how that comes to pass is most uncertain: whether is it, as *Theophrastus* seems to say, when the juice cannot be diffused by reason of the great heat, and the foulness of them? or should we rather say, that the dry part desires the humour, but the humour flees from it as its contrary? So we see drops hanging on a dry wall: or whether the over great heat corrupts both the natural heat and moisture contained within? That corruption comes that way, most sickly *Ethiopia* can testifie. A little worm eats Beans, *Theophrastus* calls it *Midas*, and *Hesychius* *τρίπυρος*, *τρίπυρος*, and *κνυμάλπυρος*, is a worm breeding in Pulse, but chiefly in Pease, and hath its name from eating: and such a one breeds in chich Peason, after that the saltness of it is washed away with showrs, as besides the Scholiast upon *Hesiod*, *Phavorinus*, and *Theophrastus* determine. They often breed in the sweeter Pulse, both by reason of the fitness of the nourishment, and the nature of the air fit to breed worms, and when they are bred they nourish them, and shew them forth. Worms bred in corn are generally called *Saenuses*, which feed on the roots, stalks, reeds, and prickles of winter Wheat, Panick, Oats, Rice, Miller, Rie; others there are that feed upon Wheat-flour, as those that are called *Farinarii*; others of that which is whole Wheat, not yet ground in a mill, as Weevils. The English call the *Farinarii* Meal-worms; they are like to ships worms, they have six feet, with a little shining red head, a round body, and divers coloured as the meal is: for the best and whitest meal breeds them white, the elder meal breeds them yellow, the lean meal full of bran hath dark colour'd. *Cardan* calls them Meal-moths, (but as it falls out frequently) not well considering of it. Those that



are fed with bran, it is wonderful how great they will grow, and from ten in a short time you shall finde three hundred. They are found amongst woollen weavers at all times almost; for they make a mixture of Bran, Vinegar, and Hogs grease, from whence they breed abundantly. The Weevil is the bane of whole Wheat, be it raw or torrefied (as in *Burn* of *Actius* (which the English call *Mault*, the mother of Ale.) For so my Comedian hath it, though *Virgil* and *Varro* call it *Gurgulio* or *Curgulio*. The English call the Wheat-worm *Kis*, *Pope*, *Bowdes*, *Weevils*, and *Wibils*, as if you should say double Bill, yet it is indeed a living creature with three beaks. It destroyes wheat chiefly, yet it will destroy any other grain, leaving nothing but the hull, and the thin skin. For as *Virgil* hath it in his *Georgicks*:

The Weevil spoils a mighty heap of corn.

It is formed like a small Beetle, it hath a beak proper to it self, and with three forks. Some of them are with black bodies, others with brown, but others that are the greater are greenish, and the middle of their body very small. This creature is so dry, that with the least touch it will turn to dust. It is bred chiefly in the Spring, some few daies before that Bees swarm. *Theophrastus* saith they breed of one part of the grain, and the other part they feed on. Our Countrey-men finde by experience that this wheat-worm will lay eggs in chinks of wals, and under the tyles, and from thence by procreation comes a new off-spring. They speak of three wonders concerning these little creatures. First, that though they be but few at first, yet in a short time they will increase infinitely. Secondly, that they will lie between the tyles and in chinks of wals without any meat at least three years. Thirdly, that if they be put into water three daies with

with Wheat or Barly, when they are taken forth they wil live again. Our Countreyman *Siliardus* (a diligent observer of Nature) describes the propagation of Weevils thus: when Ants have eaten off the top of the ear of wheat, the Weevill goes up, and in that little hole he laies one or two eggs (but seldom three) so great as a grain of Muller, long and yellow, full of liquid yellow matter; from this afterwards proceedeth another Weevill. This little Insect hath both sexes, for they copulate before they do this mischief. *Petrus Comestor* affirms that they proceed from Beans corrupted, to whom no man but *Guillerinus de Conchis* assents, lest they should falsly confound a Weevil with *Midas*, or Bean-worm. Beside this Weevil commonly known, *Joach. Camerarius* sent two others to *Pennius* out of the barns of Germany, with a far greater belly; one of them was a kinde of ash-colour, and the other green. Also *Scaliger* saith there is in wheat a worm without a becke, which perhaps *Pliny* meant by his corn-beetle. To this I will refer a certain little creature that is frequent in barns, that creeps with six feet, and with two short fail-yards it tries its way, it is spotted on the middle of its back and sides, and the rest of the body is black, which I therefore call the spotted Weevil. This creature doth no great harm to corn, because it is still alone, and seldom two of them are found in one barn. About *Lentzbourg*, a Town of Germany, a certain insect is found in the fields, which some call *Ulpus*, some *Korn-worm*, others *Kornevele*. It is said to be so venomous and hurtful, that the Husbandmen will leave their plough when they meet it, and run after it to kill it. It is black from a little red, dwelling amongst wheat and eating up the corn: worms bred in Vines, the skarlet Oak worms are like them, such as *Brassavolus* doth strongly maintain and think that they are bred on the roots of Pimpernel. Amongst herbs, both for physick, and for meat, the Violet, Radish, Rue, Basil, and many more are molested with worms. The worms in Violets are very small and black, and run very fast, as *Jacobus Garetus* a most diligent Apothecary, and very famous in the knowledge of simples as there are not many, affirms, out of the root of the Hartichok a worm comes, that hath six feet, like to a Caterpillar, and whitish, with a reddish black head; where it bites the roots of Hartichocks it makes them black, and at last kills them. The Radish produceth the like. *Cardan* saith, men report that there is a worm found in the leaves of Rue, and it will grow wonderful great, as the Hazel-nut worm will do if it be fed with sheeps milk. A little worm that is the childe of the dew, and a guest in basil with a body almost upright, he sticks fast by his hinder feet, whilest he takes hold with his forefeet. Sugar is made of the Sugar cane, the sweetest of all Salts, and as the common sort of Physicians suppose, it is altogether free from corruption. Yet under the authority of *Scaliger*, I assert that a little worm is bred in Sugar, long, black as a flea, and (if you take away his becke) like to a Weevil; and therefore we may justly call it a Sugar-worm. *Bellonius* also makes mention of this. But that Insect which the Germans call *Mayen Wormlen*, seems to breed very seldom, saith *Camerarius*. For in the moneth of May dewes often fall that are very unhealthful, and if they fall upon the leaves of Hops, they turn to little living creatures called *Hoppen*. Amongst thousands of these you shall sometimes see one far greater than the rest (though it is scarce greater than a fat lowse) it hath yellow circles about the belly, the back is chamfer'd, the tail is somewhat long, the colour of the body for the greatest part is blackish. This when it wants aliment from dew, devours one by one all of his own kinde, ever beginning with that is next to him: he changeth his skin like to Silk-worms: lastly, when he is almost transparent, he putting off his last skin, he hangs by his head and feet by a kinde of thin bird-line, by some leaf, and so he dies: why may we not call this worm the Hop-worm? In the stalk of the Asphodil, a worm is bred of a clear colour when the herb begins to flower, out of his shoulders wings grow by degrees, and then when he can fly, he forsakes his habitation. In the swollen joynts of the codded Asmart, and the wilde Thistle, little white worms breed, as yellow ones do in the purple flowers of the bastard wilde Chervil, and red ones in the root of Pimpernel. I often have seen in the female Smalage downy worms; in Mushrooms and Coleworts, small black worms; in the root of Acorus, white ones: in the root of Elecampane whilest it is green and growing, white worms breed in ten or eleven joynts that are visible, that are as thick as a Gooquill, with a lit-black head, and six short feet, and the body all black. The Kings of the Indians, as *Ælian* testifieth, use to eat for their second course, a worm found in a certain plant, when it is roasted at the fire, and they commend it for the daintiest and sweetest meat. In the head or stalk of the Fullers Teasil, we have seen a worm very small, with a little head, and six black feet, with ten or eleven incisions. First it eats up the spongy pith of the stalk, and when that fails it dies for want of food. It is easily found at the beginning of *October*, though *Marcellus* upon *Dioscorides*, doth most shamefully deny it. If I am not deceived, this is that worm the Ancients call *Tatinum*. *Xenocrates* calls a plant like to double Camomel *Galedragon*, (saith *Pliny*) it hath a stalk like Fennel Gigant, with a tall and prickly head, and like to an egg in form: in this with age they say little worms breed, that are good against the tooth-ach.

In the roots of white Thistle (which plant is luxuriant in the high mountains of *Savoy*) there is a little worm found, breeding in some, in others it growes great, and in most of them it grows to have wings and ready to fly, it is white, and hath some joynts that it is divided by, and very black, shining eyes. It may be there is great use in physick of a little worm bred in wilde Tansey: but I leave the enquiry of that to those that are curious in the secrets of Nature.

CHAP. XXI.

Concerning the use of Worms that breed in Minerals and Vegetables,
and the way to destroy them.

Some think that worms that are bred in stones, (whereof we speak) those I mean that are as great as Hand-worms, beaten into powder with the stone, are good to cure Ulcers. Also *Marcellus* witnesseth that these bruised and given with three Cyathi of water, will break and drive forth the Stone by urine. The Ancients used the more solid wood that the *Thripes* had carved with their teeth for Seals, and Antiquity ascribeth the invention of that to *Heracles*. In old trees red worms breed, whereof *Serenus* writes thus.

*From an old tree do but red worms procure,
Bruise them with Oyle, and dropt in warm, be sure,
For pains oth' ears this is the safest cure.*

Galen out of *Apollonius* subscribes this remedy. Worms that breed in hollow and rotten trees heal secret Ulcers and all symptomes of Ulcers, and diseases of the head; also being burnt and powdered with their weight of dry Dill, they cure Cankers, *Marcellus*. But *Aetius* adds three Worms bred of wood to an Oyntment against the *Elephantiasis*, which he learned of a certain Physitian that took his oath of secrecy. The rottenness that is made by their biting dries without pain, and is profitable for many things. *Galen* *Enpor.* 3. c. 7. commends this kinde of powder, against knobs, clifts, and sores of the Fundament. Take Orpiment in pieces three ounces, rotten wood of an Oke four ounces, make a fine powder, then foment the place affected, first with the warm urine of a young boy, and afterwards strew on this powder. But the *Cossi* are not only food for the Inhabitants of *Pontus* and *Phrygia*, and they delight much in them (as Worms in Cheese are to the *Germans*) but they also cure Ulcers, increase milk, and as *Pliny* saith, when they are burnt to ashes they cure creeping sores. The Worm in Fullers Teazil put into a hollow tooth, will give wonderfull ease. *Pliny*. And if it be hanged in a bladder about the neck and arms, it will cure *Quartane* Agues. *Dioscorides*. One *Samuel Quic-bergius* a learned young man, in an Epistle he writ to *D. Gesner*, hath these words, Saith he, as I was gathering of Simples, a certain old man came unto me whilst I sought for a little Worm in the head of the Fuller's Teazill, and he said unto me, O thou happy young man, if thou didst but certainly know the secret vertues of that little Worm, which are many and great. And when I intreated him, that he would acquaint me with them, he held his peace, and by no intreaty could I obtain it of him. *Pliny* asserts that the Colewort Caterpillars being but touched with it will fall and die. The Worms of *Galedracon* (which plant some men confound with Fullers Teazil) being put into a box, and bound with bread to the arm on that side the tooth akes, will wonderfully remove the pain, saith *Xenocrates*. The Worms of the Eglantine will cause sleep, and therefore some *Germans* call them *Schlafoirs*: They are applyed alive to a Felon (but alwayes their number must be odde) and they do certainly cure it saith *Quic-bergius*. A little Worm found in the herb *Carduus*, bound up in a piece of Skarlet and hang'd about the neck, will cure the tooth-ache. *Marcellus*. The Worms that are found in the root of Pimpernel, make a most incomparable purple colour, (*Gesner*) that I wonder the Ancients said nothing of them. All little Worms found in prickly herbs, if any meat stick in the narrow passage of the throat of children, will presently help them. *Pliny*. Rub a faulty tooth with the Worms in Coleworts, and it will in a few dayes fall forth it self. Meal-worms are good and seem to be bred to catch black-heads, and Nightingales, and to feed them; nor is there in winter wholesomer meat for them: for they purge, heat, and nourish also, those Birds that have but a thin nutriment to preserve them. I spake before of the profitableness of the Cochineel Worms. *Brassavolus* affirms the same of Vine-worms, but how rightly let others judge; but they are not only good for dying, but necessary in Physick, for they both binde and dry, and scowr without biting, and incarnate also, they cure rheumatick eyes, mingled with Pigeons blond, they help suffusions of the eyes, they cure Dysenteries, they help hard labour in Childe-birth, and debility, they cure Melancholy, fear, Epilepsies, they provoke urine and the terms, they heat the Matrix, they dissolve water and choler, they abate the panting of the heart, and upon that score they are put into Confection of *Alkermes*, and are the Basis thereof. *Dioscor.* *Avicen.* *Kiranides*. I say nothing, how greedily Sparrows, Wood-peckers, Hens, Wood-cocks, Snipes, the *Pardus*, a Black-bird, Larks, Gnat-snappers, Reed-sparrows, and many other birds, that are good physick, or else meat for us, do feed on the Worms of trees and herbs. Now since God hath mingled conveniences and inconveniences together, both to rouse up our providentiall pudence, and to punish us with punishments due to our sins, how both of these may be prevented I shall shew briefly. *Jonas* being cherished under the shadow of the Gourd, he thought it safe and happy to be so, when the heat was so vehement. But God sent

a worm and took that from him, both to try his patience, and demonstrate his frailty. There was an Arch-bishop of *Yorke*, whose surname was *Grey*, as our Histories relate, when he had abundance of all Corn in the time of great scarcity, yet he refused to let the poor have victuals either for money or intreaty. A little after this his barns that were full of Corn, were so exhausted with Weevils, that they left not one whole grain of Wheat or Barley: Even as *Solomon* said, *He that hoards up his Corn the people shall curse him, but blessing shall be on the head of him that selleth it.* So God, that he may call forth a sluggish father of a family, sends the Moths and Worms into his Orchards and fields, both to make him laborious by this means, and also to teach him to make use of such helps and means that God offers to him. Our Ancestors have delivered by tradition many of these: But because *Cato*, *Vitruvius*, *Pliny*, *Palladius*, *Theophrastus*, *Columella*, *Varro*, *Virgil*, and many of those that were Princes in husbandry, have abundantly set down these things, we shall only give you a smack of them here, because others have given a full draught. That trees may not be eaten with worms, plant them in the new of the Moon, and cut them down between the new and old Moon in the conjunction. Also anoynt them with Tarre, and often wet them with the lees of Oyl. Also keep them under Covert, every where, that they may not stand exposed either to great heat of the sun or tempests of weather. Also that trees may not grow worm-eaten, anoynt their roots before the first planting of them, and then afterwards moisten their roots with mans urine and a third part of the strongest vinegar. Some steep a long while Squills with Lupins, and they sprinkle the places that are worm-eaten or presse out their liquor with a Sponge, or they besmear the stock of the tree till it be very wet, and they powr into the holes Bitumen mingled with Oyl. Others sprinkle on quick-lime, others Oyl-lees and old pisse, others Hogs or Dogs dung steeped in Asses pisse, the roots being first uncovered. *Democritus* taught men to bruise *Terra Lemnia* with water, (it may be he meant Carpenters red) and to smear them with that: Some pick out the Worm with a brasse pin and put Cow-dung over the hole. Red hairy Worms search to the inward pith, if you can draw these forth and not break them, and burn them hard by, it is reported that all the rest will dy with it. It is good also to powr often upon the roots, Bulls gall, and lees of Oyl: To plant Squills, Rue, Worm-wood hard by, to make a menstruous woman passe over the place often, to smear the pruning knives with Oyl of *Cantharides*, and to avoid lean and dry ground. By these remedies Oranges, Peaches, Pomegranates, Quinces, Pears, Apples, Olives, and Okes, and other trees are kept sound a long time, and almost free from Worms. Ashes laid to fig-trees, drive away Worms, for it hath the force of salt, though not so strong. The seeds of Fig-trees or kernels will not be eaten by Worms, if a slip of the Mastick tree or Turpentine tree be set by them. As for Vines, *Actius* bids us to sprinkle Sea-cole with water, and cast upon the place in the Spring-time, and then to smear the roots of the Vines that begin to bud. For if you smear the pruning knife with Goats suet or Frogs bloud, or do but anoynt the Whet-stone with it, worms will not breed there. *Africanus* saith that the tears of the Vine mingled with the ashes of the Vine-stalks, and put on the root with Wine, it will do as much. Lastly they are killed with a fume of Oxe-dung, Harts-horn, Goats-clawes, Lilly-roots, shavings of Ivory, womens hair. The herb *Pionie* or *Thorow-wax*, planted where Vines grow, drive away worms. Some there are that boyl *Assa ferida*, and *Lazerwort* in Oyl, and anoynt the stocks of Vines with it (beginning at the root) or with Garlick bruised. The seeds that must be sowed, should be kept in a Tortoise-shell, or Mints are to be sowed amongst Pot-herbs, but chiefly Tares. The bruised leaves of the Cypresse-tree mingled with them, will avail much. *Aggregator*. And *Palladius* saith that all seeds will be free from worms, if a little before you sow them you soke them in the juice of wilde Cucumbers. *Pliny* bids to prepare seeds of Lupins before you sow them, in the smoke or some hot place, because in a moist place the worms will eat up the middle of it, and make it barren. *Varro* saith that worms will never touch Onyons that are set with salt and Vinegar. Moreover, the seeds of all pot-herbs wet with the juice of Housleek, will admit of no worms. Against Weevils, that are a certain plague to Corn, it is good to dawb the walls with lime and hair both within and without. Others do for two dayes steep the fruit and leaves of wilde Cucumbers in lime water, and with sand they mould it up like plaister, and with that they plaister the insides of their Granaries; though *Pliny* writes that Quick-lime is a very great enemy to Corn. Some put beasts pisse to the lime, some worm-wood, juice of great Housleek, and hops, others powr on the ground Oyl-lees, Herring pickle, and the decoction of Flea-bane. *Strabo* mingles Marle. Others report that often fanning of wheat keeps it safe from weevils; but *Columella* denies this to be true. *Cato lib. de re rustica*, commends Clay mingled with Oyl-lees, and he would have the Granary to be fenced with that, *Varro* useth it almost the very same way, but he commends Clay with Oyl-lees, Maple tree and Corn mingled together. Our *English* men do deceive and destroy them divers wayes. Some in the middle of the heap of Corn do so place brasse Vessels half full of hot water, that the Corn may lie almost up to the mouth brims of the Vessels; for thus they think the weevils are taken or destroyed.

Some shut up an Ant-hill and Ants together in a bag, and after that they powr it forth in a corner of the granary: thus in ten daies will the Ants destroy all the Weevils, and when they are killed, they take them and carry them forth, that are going back to their former house. Also they use to put into that place young Chickens that will soon eat

up all the weevils. Some sprinkle on salt water where Garlick hath been infused, or Hops, Elder-leaves, worm-wood, Rue, Nigella seed, wilde Mints, Walnut leaves, Savoury, Lavender, Southern-wood, Flea-wort, Bean Trifoly, boyld in Vinegar of Squills. They are much delighted with Navew seeds, for the sweetnesse of them, that they will leave the Corn for that, and eat till they swell and break in sunder. Though some may think these things too much, and beside my purpose, yet *Hippocrates* proves that they are fit for Philosophers and Physitians (*Epistola ad Cratevam*) not only to know the art, to describe, gather, lay up, and use Simples, but also in preserving them, and preparing them, and to purge them from inbred or inflicted venome, and from putrefaction and worms.

CHAP. XXII.

Of the six footed Worms of living Creatures, and first of Lice in men.

A Lowse.



The Name.

Description of
their differen-
ces.

Since God hath given the principality to man amongst living Creatures, we will begin with him. In the first beginning whilest man was in his innocency, and free from wickednesse, he was subject to no corruption and filth, but when he was seduced by the wickednesse of that great and cunning deceiver, and proudly affected to know as much as God knew, God humbled him with divers diseases, and divers sorts of Worms, with Lice, Hand-worms, Belly-worms, others call *Termites*, small Nits, and *Acares*: *Acastus*, *Alcmaon*, *Phericides*, *Pharaoh* King of Egypt, *Cassander* son of *Antipater*, *Democratius*, *Calisthenes*, *Olynthius*, *Scylla* the Dictator, and that river of Eloquence *Herod*, knew it to be true that I write, who perishing with a Lowse disease, used Physicks and Baths in vain, for they died miserably of them. Some also write that *Plato* (being elevated perhaps more then he ought, and so wise that he disdained others) died of this disease, whence grew the Proverb, *Platoes Lice*. I shall say nothing of *Henry* the second a most cruel Tyrant, and *Theodorus* that propagated *Arianisme*, two Kings of the *Vandals*: I let passe *Arnulphus* an Emperour, and an effeminate *Sodomite*, and *Cesar Maximus* a filthy Pander, all consumed with Lice, who found that when God commands, the least and most contemptible Creature hath force enough to destroy sinners, and with *Pharaoh* they were compelled to acknowledge this to be the finger of God.

The *Hebrewes* call a Lowse *Kifim*, and *Chinnam*, the *Greeks* *pediculus*, *βεδύλλης*, *βήρυς*, *βήρυς*, *βήρυς*, *βήρυς*, the *Italians* *Pidocchio*, the *Spaniards* *Piccin*, the *French* *Pou*, the *Germans* *Luss*, the *English* *Lowse*. The *Latines* call it *Pes*, as we read in *Plantus in Curcul*. Wherefore you are a kinde of Lions, and like Flies, Gnats, Lice and Fleas, you trouble all men, and are hated by all, but never do any good. And *Livy* to *Gladiolus*, Are they Fleas, Wood-lice, or Lice? Answer me. And *Lucilius* when he sees me, he scratcheth his head, and picks Lice. *Festus*. Where still a Lowse is called *Pes*. It is a beastly Creature, and known better in Innes and Armies then it is wellcome. The profit it bringeth, *Achilles* sheweth, *Iliad* 1. in these words: *I make no more of him then I doe of a Lowse*; as we have an English Proverb of a poor man, *He is not worth a Lowse*. The Lice that trouble men are either tame or wilde ones, those the *English* call *Lice*, and these *Crab-lice*; the North *English* call them *Pert-lice*, that is a petulant Lowse, comprehending both kindes, it is a certain sign of misery, and is sometimes the inevitable scourge of God. The tame ones that breed of corrupt blood, are lesse, and reddish, from Fleame white, from melancholy and adust humours, black, and from mixt humours they are of divers colours, as *Petrus Gregorius* noted l. 33. If you rub them gently between your fingers you shall see them four-square, and something harder than Fleas, whence in the dark when you take them you may easily finde the difference. They that breed in the head are bigger, longer, blacker and swifter, those that breed in the body are fatter, bigger bellies, flower, darkish white, and marked with blackish streaks. Some constantly affirm, that in May they have seen Lice with wings, and that the Locust-eaters of *Lybia*, when they have fed too plentifully of them, after they come to be forty years old, will die with these Lice, as *Diodorus Siculus* saith confidently, 4. *Antiquitat*. *Agatharcides* speaks of these Lice, but he saith they are like to Ticks. They chiefly fasten on the chin, eye-browes, and the privities full of hair, the groin, and the arm-pits, their body is more compact, their nib is sharper, they bite more, and tickle lesse. For Tykes will sometime enter deep into the skin with their nose, that you can hardly pull them out but with the losse of their heads, and they seldome wander, but they bite cruelly, and make themselves a hollow place, and there they stand fast. Some call these Lice in *Latines* *Cicci*, some mens Tikes, others Vultures lice: *Aristotle* calls them wilde Lice, *Hist. Animal.* l. 5. c. 31. it is harder then a tame Lowse, and is more hardly removed from the place it bites. Our *French* men, saith *Fouberius*, call them *Morpions*, and *Patte*, the *Germans* call them *Fenltz leust*, *Gordonius Pessolatus*: they stick very fast to the skin, or bite through the cuticula; they are of a dryer matter, and that which is half roasted,

so they are not so swolne, but they are more compact. The *Arabians* call them *Alcarad*, *Guardam*, *Faed*, and with an Article, *Alguardam*, and *Alfaed*, as *Ingrassias* observed. Also in the *Synonyma* contr. *Rhasis*, they are called *Motes* and *Immores*. The *Italians* call these *Piatolos*, and *Chacillos*, and *Albenzoar Platulas*. All Lice breed from humours, flesh, fat, sweat corrupted, and differ exceedingly in respect of the place and humour. For those that breed of mans blood will die if you smeare them with the blood of other Creatures. Also they that breed in a mans head will hardly live, or not long in his body. So the wilde Lice bred in the privities will die in the head. Those that breed of flesh putrefied, such as often will abound in Ulcers ill cured, will not be fed with the excrements of the skin, (saith *Hieron. Mercurialis*, l. 1. c. 7. de morb. cut.) The opinions of Authors are divers concerning the generation of this disease: *Aristotle* 5. hist. anim. c. 31. thinks that Lice breed of flesh corrupted, in which place he affirms three things. First, that they that breed Lice, have some pulses arising before in their skin, which if a man prick, the Lice will appear. Then that this disease come not, but by moist humours, or to such that have been troubled with a long and moist disease. Lastly, that all Birds, Fish, Four-footed beasts, are molested with this disease, except an Asse. The first opinion pleaseth me not: First because in the skin of the head Lice breed most commonly, where there is the least portion of flesh. And again, if they should breed only of corrupt flesh, the heads of young children that are almost allwayes full of them would be so wanting of flesh, that it would almost waite all away. Further, in Consumptions, where the body nourisheth not, and is wholly consumed almost, they abound most commonly, where all the flesh is so dry, that there is no moisture almost to breed Lice. *Theophrastus* is of another minde from *Aristotle*, affirming that Lice breed of corrupt putrefied blood; which *Hieron. Mercurialis* in the quoted place labours to infringe by these reasons. First because in Feavers that grow from putrefaction of blood, there is seen no such increase of Lice. Secondly, if they should be made from blood, some of them at least would be of a red sanguine colour, and testifie from whence they were bred, as other things doe, but we see no such, therefore, &c. In which place this otherwise very learned man, seems to beg his principle. For in the heads of our children we oftentimes finde very red Lice, and in those that are upon recovery of a putrid Synochus, we finde that oftentimes many red and mingled coloured Lice breed. *Galen*, 1. de comp. med. sec. loc. c. 7. and *Avicenna* l. 4. sen. 7. tract. 5. c. 26. ascribe them to some other cause, and as *Mercurialis* thinks, that their opinion is the truest of all, namely, that they breed from the hot excrements of the second and third concoction putrefied, nor sharp, nor bad. To understand rightly their opinion, we must know, that when blood is changed into the substance of the Limbs, many kindes of excrements are produced, whereof some are dissolved by insensible transpiration, others by sweat, others turn to filth, others stay in the skin: Those that are retained in the upper skin, make dandruf, if they stay in the depth of the skin, or are bad and sharp, they cause sore heads. But since I have observed that in some that were in a Consumption incurable, where the sharpnesse of the humour eats up the very roots of the hairs, Lice come forth abundantly, why may I not think by their leave that they may breed at first from sharp humours? *Scaliger* would prove that Lice breed not from putrid humours, because herbs grow from the seed without putrefaction: for he thinks the principle is altered, but he beleeveth not it can be corrupted. But by his leave I must say that *Scaliger* or the Apostle must be mistaken: For so *St. Paul*, 1 Cor. 15. That which thou sowest is not quickened unlesse it die. But if death be a corruption, as the Philosophers say, then *Scaliger* was deceived, and (yet keeping the Laws of friendship) we may deservedly reject his opinion. And Epithymum breeds from Thyme, and Mistletoe ariseth from some trees, that are sound, and not yet corrupted. But I answer, that a Lowse differs more from the principle it proceeds from, than Epithymum doth from Thyme, trees from Mistletoe. For these are of the same kinde, and are as it were thrust forth from the abundance of fruitfull matter, and Mistletoe is nourished from the pith of the tree. But it is apparent, that Lice seldom breed in sound bodies, or not at all, but those that are cachectically, in Consumptions, and full of putrefaction, and watry blood, and whose flesh and skin are corrupt as well as their blood, and fat, are troubled with them. Oftentimes sound men sweat, and yet breed no Lice, for they will not breed of all sweat, but from corrupt sweat, and that which is not bitter. But when it grows bitter, (as we finde it in those that are dying, or troubled with the Jaundies) they forsake their stations and creep from the body into the pillowes that are under them; yet they do not alwayes go to other places when men are dead, for as those that take care of the dead Corpses affirm, they will still stick about the mouth of the stomach, and under the chin by the sharp artery; which places which are most full of native heat, when they once creep unto, it is no small sign of death approaching. Also the complexion serves much to breed Lice, the Countrey, and the dressing. For some have more, some fewer, and some in any Climate will be free from them. *Ovidius* 1. Navig. c. 82. writes, that Christians in the West-Indies have not so much as a Lowse in their heads, and yet the Inhabitants (to use *Plantus* his phrase) are very Lowly, *pedicofi*. Also our Countrey-men have observed, that have passed upon the Indian sea, when they have left the Isle of Azores behinde them, all the Lice presently die, and when they see those Islands again, they will revive abundantly. I think the reason is, (that I may here help *Pennius* out) the extreme heat between the Tropicks, that not only sucks aliment from them, but the Element also. *Vesputius* testifieth of the Isle

Causes of a
general lowse
disease.

L. de Plant. c. 2.

of St. Thomas, that the Blackmoors there are full of Lice, but the white men are free of that trouble. As for dressing the body: all Ireland is noted for this, that it swarms almost with Lice. But that this proceeds from the beastliness of the people, and want of cleanly women to wash them is manifest, because the English that are more careful to dress themselves, changing & washing their shirts often, having inhabited so long in Ireland, have escaped that plague. Hence it is that Armies and Prisons are so full of Lice, the sweat being corrupted by wearing alwaies the same cloathes, and from thence ariseth matter for their original by the mediation of heat. So those that keep no diet, but delight in eating and filthines, and feed on *Vipers, Radishes, Basil, Figs, Lignum Aloes, Garden Smalage, and Dates* too much, their bodies will from putrefaction of humours breed Lice between their skin, as *Diodorus in Empiricus, Simon Sethi, Aetius, and Pliny* affirm. But *Dioscorides* saith it is exceeding false, that Lice will grow from eating *Vipers*. Sheeps-wool that a Wolf hath killed will breed Lice, if a garment made thereof be wet with sweat, which grant that it be an invention of *Aristotle and Pliny*, yet experience teacheth us, that cloathes smeared with Horses grease, will breed Lice presently. *Alian* saith that he will be full of Lice, who is anointed with oyl wherein a *Stellio* is drowned.

Prevention
and Cure.

Against this terrible disease, which the Greeks call *φθειρα*, many have invented divers remedies. The *Irish* and *Iseland* people (who are frequently troubled with Lice, and such as will fly, as they say, in Summer) anoint their shirts with Saffron, and to very good purpose, to drive away the Lice, but after six moneths they wash their shirts again putting fresh Saffron into the Lye. But *Antigonus in Synag. Histor. Paradox.* so soon as little pusshes or wheels appear upon the body, bids us prick them, and take forth the Lice: but if they be left unprickt, that general lowsie disease will come, whereby they say that *Alcmaeon Physicus*, and *Pherecides Syrus* were destroyed.

The general Cure of the lowsie Disease.

Amatus Lusitanus cured that good Venerian at *Ancona* (of whom I spake before) who was sick of a general lowsie disease. First, by opening a vein, and then purging him; for so he drove forth the corrupt humours that fomented the disease, not at once, but twice or thrice. Afterwards by applying Topical remedies, in a short time he grew free of this plague. Topical Medicaments were made thus: Take bitter Lupins iij. pugils, seeds of Staves-acre ij. pugils, in the sharpest Vinegar what is sufficient, boyl them, and with that Vinegar wash the body from head to feed, then wipe and dry it, and anoint it with this oyntment following: Take Staves-acre two parts, Sandaracha of the Greeks one part, the finest Nitre half a part, mingle them all with the sharpest Vinegar and oyl of Radishes, and pound them together very exactly, and with these make an oyntment: with which *Amatus* soon attained his purpose, that the sick fell no more into the same foul disease. *Amat. Lusitan. cent. 3. curat. 58.* *Herod.* (as *Iosephus* and *Agesippus* testify) when he had got this disease by his great pride, and he was so smitten from God, he went to the Baths beyond *Jordan*, and the *Bituminous Lake*, that were very good to cure this disease, but at that time they were of no force, when God was pleased to punish a proud Prince with a contemptible creature. If the body be lowsie all over, it shewes a general Cacochymia, wherefore it is best in my opinion, first to open a vein, and then to give a Purge, as the humour requires, and so to proceed to specifics, and such as agree with the place affected. *Dioscorides* prescribes such kindes of internal remedies: Take Garlick with the decoction of *Origanum*; drink this three daies. Another, Let the sick drink Coriander bruised with *Origanum*, and anoint himself outwardly with Honey. He commends also Alum-water, and the Decoction of Betes, juice of Ivy and the gum of it with Honey, liquid Pitch, Alum, Synopex smeared on with Vinegar, Nitre with Samian Earth and Oyl.

Other outward Remedies that kill Lice, out of Pliny: Seeds of Staves-acre beaten, without the hulls, will free the body from Lice, but better if you mingle them with the Sandaracha of the Greeks, Mustard-seed, Garlick, with Vinegar and Nitre are good for the same. Oyl of Radish doth cure the lowsie disease contracted for a long time. Siler, Mountain-seed beaten with Oyl, Hyssop, mingled with Oyl, Tar, sweet Gums, the juico of the wilde Vine, and Staves-acre boyl'd in Vinegar, will free garments from them. So black Hellebore with Oyl or Milk anointed on is very good. *Internal Remedies out of Pliny.* A Snakes cast skin powdred and drank for three daies, will keep the body free from Lice. Mustard-seed, or seed of Tamarisk, drank, are good; so is water of Radish-leaves, and the juyce of Priver-berries, Plantain, Garlick, the juyce of wilde Cucumer, and Tar. *Nonus* commends the root of the sharp Dock, bruised with Oyl and anointed, first washing the body with the decoction of *Lupins*, and he prescribes a remedy of Sandaracha of the Greeks, Nitre, and Staves-acre. *Oribasius* approves the juyce of Pellitory long rubbed on, or Nitre with the wilde Vine in a Bath. *Rhasis* prefers the leaves of Barberies, gum of Ivie, great Knot-grass, and Sea-water. *Avicenna* commends Quicksilver with oyl of Roses, and wilde Staves-acre with Arsenick. *Haly Abbas* bids us purge the body, and then to eat meat of good juyce, to wash away the filth, and to change our clothes often: then he prescribes Quicksilver bruised with Staves-acre-seed, and oyl of wilde Saffron, and with that to anoint the body morning and evening, after bathing. He farther commands us to use these Remedies: Take long Birthwort, bruise it with Pine-leaves and Quicksilver, and with oyl of *Lupins* what may serve turn, make an Unguent. Anoint the body with that at night, and in the moining wash it with

with hot water, after that, with a decoction of Alum, Wormwood, Santonicum, or Mugwort, rub it away. *Another*: Take round and long Birthwort, red Arsenick, that is the Greeks Sandaracha; and with oyl of Ben. make an unguent, with this anoint the body in the evening, and in the morning rub the body with Bran and Barley-meal. *Another*: Take bitter Costus, Cardamomum, Buls gall, bray them with the Oyl of Pistaches, anoint the body with it, and in the morning wash it with the water of a decoction of clear Bran, or of Barley. *Constantinus* used Quicksilver with ashes, Licharge, Vinegar and Oyl mingled together for hot complexions; but for cold he used Pine-tree juyce, Sea-water, Staves-acre, Nitre, Arsenick, and oyl of wilde Saffron. *Johannes de Rupe scissa*, mingled Quicksilver with Aqua vitæ, and the powder of wilde Staves-acre, with that he provides a girdle, which worn about the bare loyns will kill the Lice. *Serenus*, *Abinzoar*, *Amatus Lusitanus*, *Matthiolus*, *Hildegardis*, *Johan. Vigo*, and others, prescribe other remedies, but most of them of these materials. He that desires more remedies against the lowlie disease, let him read *Paulus Ægineta*, l. 3. c. 3. *Galen* l. 1. de comp. med. sec. loc. and *Guiliel. de Saliceto* l. 1. c. 48. I knew one (saith *Pennius*) who when he was Governour of an Hospital, he cured the lowlie disease thus: He whipt the sick till the skin came off with Birchin rods, and where the prints were, the Lice would never breed again: A new kinde of cure, and most fit for idle Sea-men and slothful companions. *Amatus Lusitanus* (if I do not mistake) tels of a poor man that had a hole in his back by reason of an Ulcer, out of which daily abundance of Lice crept; questionless they were bred between the skin and the flesh, and afterwards by an unguent of wilde Staves-acre, Quicksilver, Pepper, and Lard, he was cured. *Raland* prefers the Balm of Sulphur to all remedies, and not without cause.

Actius writes, that wilde Lice must first be picked out with great diligence, then the place must be fomented with warm Sea-water; yet very warily if they stick in the eye-browes, that you hurt not your eyes: then apply this remedy: Take Alum Scissil ij. drams, Staves-acre j. obolus, Pepper j. obolus, burnt Brais j. dram, Myrre ij. oboli, Scissil-stone ij. oboli and half, Misy torrefied j. dram; bruise it and dry it, and so use it: Then let them bathe and heat their head with discutients and strengthners, wash the whole body, and rub it again. Our Countreymen pick them out, and then they anoint the places well with black Sope, and if the body were too hot, anoint the body with the pap of a sweet apple mingled with Quicksilver, and it is a certain remedy. *Celsus* saith they offend the eye-browes so much sometimes, that the eyes being ulcerated they dim the sight, then incorporate purified Quicksilver with tops of Wormwood, and old Hogs grease, for nothing doth more certainly cure one, if it be done with caution. Also take Aloes j. ounce, Ceruse, Frankincense, each v. ounces, Lard what may suffice, make an unguent; some mingle with this Quicksilver and Brimstone. But here observe, if Crab-lice do breed thick on the beard, eye-browes, the share, and peritonæum; first all the hairs must be shaved off, so soon as a general purgation hath been taken, and then the forementioned Topicks must be applied, and all galls, especially Buls gall, Calfs gall, Capons and Partridge, with juyce of Centaury and Quicksilver, are held very good. A lye of the ashes of Tamarisk destroyes the Lice. *Rhasis* and *Albertus* commend the marrow of a live Vulture taken forth. *Varignana* useth the milk of the greater Bindweed, wilde Mints, and Sow-bread, with a lotion of Honey. But chiefly he extols this Medicament: Take Staves-acre ij. ounces, Wine iv. glasses, Hogs bristles ij. ounces, purged Quicksilver j. ounce, let them boyl, and foment the body with the decoction. *Marinellus* and many others make great reckoning of Wine-lees, juyce of Broom, a Lixivium of Sena, Acorns, Cassia, Pellitory of Spain. But *Gilbert* an Englishman burns Leeches and Stryax Calamita together, and with these and Hogs bloud, he preparss an excellent Unguent.

These filthy creatures, and that are hated more than Dogs or Vipers, by our daintiest dames, are a joy to those that are sick, and sometimes a cure. For they that have lain long sick of a putrid disease, when Lice breed in their heads, they foreshew the recovery of the sick. For it is a sign of the exhaling of it, and flying forth from the centre to the circumference. Also experience proves that the Jaundies are cured with twelve bruised Lice drank with Wine. *Pennius* gave Lice and Butter to beggars and such as live on alms, very often, and so he recovered some that were almost desperate; some for the Dysurie are wont to put into the yard living Lice the greatest they can, to draw forth the urine by their tickling: which *Alexander Benedictus* relates of Wig-lice, when clammy humours have hurt the eyes, some cleanse them with Lice put into them, which creeping here and there like *Oculus Christi*, collect the matter; and wrapt up in that they will fall out. Also what shall I say? Apes, Baboons, will feed on them. And *Herodotus* and *Strabo* in *Pontus* speaks of men that feed on Lice, (to whom *Arianus* in *Periplo* consents) and the Spaniards speake the same of the Inhabitants of the Province of *Cuenensis* in the West-Indies. And they hunt after them so greedily and desire them, that the Spaniards can hardly keep their slaves from feeding on them. And it is no wonder that they can feed on Lice, that devour Horses, Asses, Cats, Worms (and more than that) men that are raw. But because it is an idle work, the women have that task put upon them to catch Lice, and they do that work almost, and therefore *Strabo* calls them *Pedilegas*. *Serenus* makes another use of them, and writes thus:

Some

Aaaaa

Some hurtful things our bodies do produce
By nature, which do stand us in great use,
To keep us waking, and to stop th' abuse
Of sleeping over much —

See the Chapter of Nits amongst the Insects without feet: Chap. 35.

CHAP. XXIII.

Of the Lice of brute Beasts and Plants.

THIS plague fell not only on Man for his first transgression, but upon beasts also: yet amongst mankind children are more full of them than young people, men than women, sick people than sound, nasty people than such as are cleanly; and so it is with other creatures: only the Asse is said to be free from this disease, not because Christ rid upon him, (as some fools dream) but because he goes so softly that he seldom sweats, or else God hath bestowed upon him some peculiar antipathy. The Lion is a courageous creature and king of beasts, yet is he so tormented with Lice feeding on his eye-browes, that when he cannot help himself with scratching with his claws, he will sometimes grow furious, as *Pliny* reports. Who hath not seen the Lice of a Horse, that most generous four-footed creature, and Nits with red heads that are apparent, and the rest of their body is of a dark white? The Lice of Oxen and Calves are black, and those that are lean have very many, like to Hog-lice almost, but shorter and somewhat thicker. Hog-lice have the same form, but they are so great and hard that you can hardly kill them with your fingers, these are called *Urti* from burning, as *Albertus* testifieth l. 4. c. 205. Dogs though more seldom, yet are sometimes Lowse; but their Lice are small ones, speckled, and with a whitish head, the rest of their body is of a blackish or wan colour from blew, as I first observed by the Dogs at *Malta*. Sheeps Lice are very small, their heads are red, their bodies white. Goats Lice differ but little from these: when the stag hath strove to cast his horns, he is troubled with an exceeding itching of his eye-lids, from Lice that breed of the same colour with their head that thrusts forth: who doth not know by *Gesners* History of Birds, or by his own experience, that Swans, Hens, Geese, Pigeons, Quails, Pheasants, Partridge, Hawks, and other fowl have Lice? Also *Palladius*, *Columella*, *Paxanus*, *Varro*, and other principal Leeches for cattel, have shewed us remedies sufficient for to kill Lice in brute beasts, that it will be no glory for me to insist upon them, nor fruitful to the Reader: what *Avicenna* l. 4. fen. 6. tract. 5. meant by Vultures Lice, I cannot conjecture, and I much desire the help of some *Oedipus* to untie this riddle for me: we mentioned before in our first Book, that your dung-Beetles are killed by their own Lice. Also Salmon-fishes, especially the leaner sort, were seen by *Pliny* to have many Lice under their gills oft-times. Also they are found in Plants, as Southernwood, Wormwood, flowers of Water-lillies, and chiefly in Columbine leaves, in *June*, by reason of its exceeding sweetness, (saith *Gesner*). Also some plants are called lowse plants, either because they are good against them, as Staves-acre, or because they breed Lice, as *Dodonaus* his *Fistularia*, or because they abound with Lice, as Columbines, or from the great despicableness of them, as the fruit of the great plum-tree, which are therefore called lowse plums.

CHAP. XXIV.

Of little Lice called Syrones, Acari, and Tineæ, or Hand-worms, or Mites in living Creatures.

Ho. à Viga falsely reports that the Ancients knew not what Syrones were, for *Aristotle* calls it *anaeiðw*, 5. *Hist. Animal.* c. 2. Also they seem to be called Syrones, *and τὸ ἀνὰ τὴν ἐγμύ*, because they creep under the skin continually. It is the smallest living creature that is, which useth to breed in old cheese and wax, and also in mans skin. *Pollux* and *Snidas* say that *anaeiðw* is such a small thing as is too small to be divided. In Latine they are called *Pedicelli*; in French, *Cirons*; in Piemont *Schri*; in Gascony, *Brigantes*; in English, *Mites*, in cheese, leaves, dry wood, and wax: but in men they are called *wheel-worms*; the Germans call them *Seuren*. *Abenzoar* saith that Syrones are called *Asoalar*, and *Asoab*, they are little Lice creeping between the skin of the hands, thighs, and feet, and raising watery blisters there, they are so small creatures, that a good eye can hardly discern them. *Gabucinus* saith; Unto our times a kinde of filthy torture that is not to be endured, is continued, a very small Lowse, not so great as a Nit, creeps under the skin. And *Johan. Phil. Ingrassias* out of *Abenzoar*, describes them very handsomely

somely thus: when the skin is excoriated when that small little pimple and push appears like to a red angry wheal, little living creatures creep forth so small a man can hardly see them. And *Joubertus* writes, that *Syrones* are those, that are the smallest Lice of all, alwaies lying under the outward skin, and creep under it as Moles do, biting it, and causing a fierce itching. They consist of a dryer matter than *Morpiones*, which for want of glutinous matter, is almost divided into Atoms. They breed often in the head, and eat the roots of the hair. The Greeks call them *τερχεῖς*, *αἰτῆς*, *τερχεῖς αἰτῆς*, *αἰτῆς*, *τερχεῖς*; some call them *Tineas* by a peculiar name. *Syrones* have no certain form as *Scaliger* well observed, only they are round: our eye can scarcely discern them, they are so small, that *Epicurus* said it was not made of Atoms, but was an Atom it self. It dwells so under the skin, that when it makes its mines it will cause a great itching, especially in the hands and other parts affected with them, and held to the fire. If you pull it out with a needle, and lay it on our nail, you shall see it move in the Sun that helps its motion; crack it with the other nail, and it will crack with a noise, and a watry venome comes forth; it is of a white colour, except the head; if you look nearer it is blackish, or from black it is something reddish. It is wonder how so small a creature, that creeps with no feet as it were, can make such long furrows under the skin. This we must observe by the way, that these *Syrones* do not dwell in the pimples themselves, but hard by. For it is their property not to remove far from the watry humour collected in the little bladder or pimple; and when that is wasted or dried up, they all die shortly after: whence we collect that as they breed from putrefied whey, so again they are sustained by it. None of the Ancients, except *Abinzor* writes of these, who saw this disease, and rightly set down the remedy. Nor are those *Syrones* of the kinde of Lice, as *Johan. Langius* seems to assert out of *Aristotle*; for they live without the skin, but these not, nor do I know that *Aristotle* in any of his writings, placed *Acaros* amongst Lice.

How cruel a disease this is, and to be compared with the lowlie disease, an honourable English Lady of sixty years knowes, she was the most vertuous Lady of *Penraddock* a Knight, that by drinking too much Goats-milk (for she feared a consumption) was for ten years troubled with these wheal-worms, with which night and day she was miserably tortured in her eyes, lips, gums, soles of her feet, head, nose, and all her parts, that she lived a very grievous life, alwaies without rest, and at last in despite of all remedies, the disease increased, whereby her flesh was consumed, and she died thereof. I must not overpass this, that the more the women that sat by her, picked them out with their needles, the more their young ones bred, and when they had gnawed the flesh also, they grew to be bigger. Hence let proud despicable mankind learn, that they are not only worms but worms-meat; and let us fear the power of that great God, who can with so contemptible an army confound all pride, haughtiness, daintiness, and beauty, and conquer the greatest enemy. It may be some will think it impossible for these Wheal-worms to breed between the eyes; but we see it is so, and we finde it was done so formerly, by an Epistle of *D. Le Janne*, a Chirurgion to *Jacob Guillimans*, his words are these: Know, saith he, that in the conjunctive membrane, or white of the eye as they commonly call it, some great Wheal-lice by creeping up and down here and there, biting, will make the place itch so much, that a man cannot hold from rubbing. In this case used remedies the Ancients used against the Lowlie disease, but to no purpose. Then my friends sent me to a sick woman, who with a silver needle pickt out these worms so cunningly and without all pain, that I wondred at it. And indeed had not I seen these little creatures to creep with my own eyes, I could never have believed that Wheal-worms could breed there. They dye for want of moisture that is salt, and are killed with contrary remedies. The common people ordinarily picks them out with a small needle, (the Germans call them *Seuren Graben*) but since this takes not away the cause of them, which fosters them, the disease still abides: wherefore it is best to kill them with an unguent or fomentation, which may at once take off that troublesome itching. That which penetrates most and kills these *Syrones* is salt and vinegar. *Laur. Joubert. Job. Arden*, formerly the most learned Chirurgion of England, saith that a Lotion with Sublimate kills them quite. And it seems not to be against reason: for it dries, penetrates, resists putrefaction, and by its heating acrimony kills them all. *Abinzor l. 2. c. 19. tract. 7.* prescribes these following remedies. First purge the body with an infusion of wilde Saffron-seed, and Nettle-seed, after that anoint it outwardly with the oyl of bitter Almonds, or *de Chervas* and with the juice of the leaves of Peach-tree: give boyled Partridge for meat, and leavened bread. Let the patient abstain from all kinde of fruit (except almonds) especially from Figs, Grapes, Jujubes, and Apples; rub the body often with the substance or pulp of Melons, or with the Mucilage of the seed. But if the body be fleshy, rub it with the juyce of the leaves of the Peach-tree. *Pliny*, where there is this disease, forbids Oxe-flesh, Hogs, Geese, and all kindes of Pulse.

Erotis l. de pas. mul. writes thus: Wheal tempered with Wine, adding thereto powder of Frankincense, put to the parts affected for a plaister, will kill these wheal-worms every where, chiefly upon the cheeks and foreheads. Another: Take common Salt, black Soap, live Brimstone, each alike, incorporate them with vinegar of Squills, and anoint the place with them. Another for *Syrones* on the face, which the Author of the English Rose calls *Barrones*: Take sharp Dock, Frankincense, Dragons cattle-bone, each alike, make a powder, and thrice in a week rub the places where the Worms breed, but first wash your face with a decoction of Bran, and on Sunday wash your face with the white of an egg and white Starch, and then wash it often with

with river-water, or with white starch. *Alexander Petronius Traianus* commends this remedy most: namely a fine linnen cloth made into lint, that it may be the softer, and stick the faster: binde this to the part affected, then lay on the white of an egge that is rosted hard, whilest it is hot, and cut into large pieces, and then binde upon it some thicker cloth, and so let it remain some hours. Then taking all away, you shall finde the inward lint full of these small Lice, which is thus proved: shake this over the fire, and you shall easily hear these young Syrones crack. Against hair-eating Worms and Mites in the heads of children, that are usual, and that will make little holes in them, *Alexius* makes great account of this remedy. Take Frankincense, Bores-grease so much as you please, let them boyl in an earthen vessel that is glased, and make an unguent. Another: Sprinkle on the powder of burnt Allum, and lay on some lint. Another not uneffectual: Powder quick Brimstone, with Rose Vinegar of Squils, or else incorporate it with Rose-water, and binde it on with a cloth for 24 hours. Another that is most certain: Take juice of Lemmons and Aqua vitæ, each alike, burnt Salt what may suffice, mingle them, and anoint with them often. Another of *Hildegard*; Apply that skimming of the air, that is, those cobwebs that are scattered in Autumn, and it will certainly destroy all those Syrones and little worms. Also strew on the powder of Bees that are dead in their hives, on the places affected, and they will all dye, chiefly if it were mixt with Aqua vitæ, or Vinegar of Squils. Again: binde on the crums of white bread whilest they are hot, do it often, the heat will kill them. Fir-tree seed burnt to ashes, which growes on the top of the tree, if it be strewed on, will help much. Also the kernels of Barberries, powdered and laid to the place, will kill Syrones. *Johan. Vigo* prescribes these remedies against Syrones wheresoever they breed. All bitter things, saith he, are good against them, shave the part affected, that they may penetrate the better. Oyl of Vitriol warily and lightly powred on will kill them mightily. Quicksilver with French Soap and a little Orpiment, and some Vinegar of Squils and some Aloes, doth much good. For Syrons in the Teeth: Some call the Worms that breed in mens teeth Syrones, which they affirm have fallen forth like shavings of Lute-strings by the smoke of Henbane-seed, received at the mouth. Though I should truly deny that these shavings are Worms, yet that Worms breed in rotten teeth Barbers and every man knowes. Against venomous Syrones, *Abinzoar* calls it the disease of Oxen, between the flesh and skin there breeds a kinde of venomous Worms; which raiseth no small tumour, as great as a walnut, wherein the Worm Syro lies hid, (he is venomous indeed, though he be but little). This disease neglected will kill. He appoints the Remedy thus: The place must be presently burnt with an actual cantery, then apply lint with Barly-meal and sweet water: when the pain of the burning is over, the humour will fall being anointed with Unguent of *Agrippa* and oyl of Roses, then wash the place with water of Honey, and strew on powder of Roses; and then using incarnatives, close up the wound. But if the part cannot be cauterized or cut, take Lupine-meal, Soot, Pepper, root of Endive, each alike, and bruising them all, and wetting them with Alchitra, fill half a Nut-shell with them, and keep them on so long, till the force of the medicament may penetrate to the Worm: but great care must be had that no part be left bare without the shell. A little creature called *Nigua*, as *Thevet* imagineth, doth much vex the West-Indian people. It is saith he an Insect most offensive to mens hands, far less than a Flea, but breeds in the dust as a Flea doth. *De Lery* was taken with the same oversight, and was not ashamed to be niad with *Thevet* for company. But *Oviedus* affirms that they breed between the skin and the flesh: but especially they breed under the nails of the fingers, into which place, when once they are rooted, the cause a swelling as great as a pease, with a mighty itching, and they multiply like to Nits. Now if this worm be not timely pickt forth with its brood, in a few daies this itching becomes a wonderful pain, and the sick dye with the violence of the disease. There is a Worm that breeds on the bodies of Hawks and Faulcons under the roots of their wings, it is called *Trosta*: we have left off to doubt any longer whether it be a Syron, *Acarus*, or *Tinea*, or not, by reading *Albertus* his Book, wherein you may read a remedy for that disease at large. Also, as *Bonaccolus* reports, in the urines of some women with childe, little red Worms called Syrones will be seen, which are a certain argument of conception. *Dermestes* is an Insect that will consume skins, and from skins it hath its name, and as the skins vary, so that changeth its colour. For oft-times it followes the colour the skin is of: it is as big as a Flea, with six feet and a forked nib. Also a Moth consumes clothes, especially woollen clothes: for it is a very devouring creature, and breeds from Butterflies as I said.

CHAP. XXV.

Of Wall-lice.

THE Greeks call it *xels*, the Latins, *Cimex*; the Hebrews, *Pischpeser*, from seeking; for it seeks after living creatures that are asleep, to suck their blood. *Isidore* will have it called *xels* and *Cimex*, from the herb *xels*, which they call *Cimicaria*; I confess ingenuously I know not what herb it is, unless it be that low and stinking kinde of wilde Orach, which growing near to wats and heaps of dirt, is called by a bawdy name, *Vulvaria*. For *Coris* of *Matthiolus* smells well

well, and therefore agrees not with *Cimicaria*. The Arabians and Barbarians call it *Alcarad*, *Debuliar*, *Fesases*, *Coroda*, and *Corab*: the Germans *Wantlausz*; the English, *Wall-lowse*; the Saxons *Wantzen*, that is *Wall-lowse*; the Brabant people call it not amiss *Wuegluys*, or *Lowie* of bedsteads; the Spaniards call them *Chimesas*; the Italians *Cimice*; the French *Punaise*. Now Wall-lice are either home-bred and without wings, or winged and wilde Lice. We spake of these in the first Book, now we shall speak of those that breed in houses.

This home-bred Lowse is a creature naturally disdained, to use the words of *Pliny*, it is almost like to a Tike, for the body of it is of the figure called *Rhomboides*, black of colour with a little red: it hath short feet near the neck, on each side three, and the belly and back marked with incisions; the skin is very thin, that it will break in pieces with the least touch, and send forth a most abominable stink. In the night by biting sharply, it sucks blood out of mens bodies to sustain it self. For like Moths it cannot endure the light, and when the day breaks it will go into chinks of beds and wals. After it hath bit it leaves behinde purple spots swoln with an itching pain. They are bred, after *Aristotles* opinion, from moisture that sweats forth on the surface of the bodies of living creatures, *lib. 5. c. 32. histor.* but without doubt they arise from other humours corrupting about beds, and that sweat out of wood by degrees. Also they propagate by copulation, as *Pennius* observed about *Orleance*; for whilest he kept company with a Spaniard born at *Capera*, he strove to draw his sword to cut off a bough: but when he could hardly do it for the rust, he was forced to cut his scabbard, where he found abundance of great Wall-lice, with a great company of young ones, and a multitude of whitish eggs of a wary complexion. *Scaliger* saith they will breed in Hens nests, and also in a short time they will infinitely increase in the Quails nests. They are frequent in Fir-tree bedsteads, and chiefly when the straw grows old. Also they will breed in paper-books. *Ludovicus Vives* in his Dialogues, thinks that wals overcast with Alabaster are the most ready to

breed Worms. It is commonly said (saith *Josephus Scaliger*) that Wall-lice will breed from Wall-lice bruised, which is hardly credible. *Cardan* that was a fancier of subtilties, writes that the *Carthusians* are never vexed with Wall-lice, and he gives the cause, because they eat no flesh. The beds at *Toulouse* (I use *Scaligers* words) eat no flesh, yet they are noted for breeding Wall-lice. He should rather have alledged their cleanliness, and the frequent washing of their beds and blankets to be the cause of it, which when the French, the Dutch, and Italians do less regard, they more breed this plague. But the English that take great care to be cleanly and decent are seldom troubled with them. In the year 1503. when *Pennius* writ this, he was called in great haste to a little village called *Morecluck* near the Thames, to visit two Noblemen, who were much frightened by perceiving the prints of Wall-lice, and were in doubt of I know not what contagion. But when the matter was known, and the Wall-lice were catched, he laught them out of all fear. Against those enemies of our rest in the night, our merciful God hath furnished us with remedies, that we may fetch out of old and new writers, which being used will either drive them away or kill them. For they are killed with the smoke of Oxe-dung, Horse-hair, Swallows, Scolopendra, Brimstone, Vitriol, Arsenick, Verdigrise, *Lignum aloes*, *Bdellium*, Fern, *Spatula Foetida*, Birthwort, Clematidis, Myrtills, Cummin, Lupins, Knotgrass, Gith, Cypress, as we read in *Aetius*, *Rhasis*, *Florentinus*, *Didymus*, and *Cardan*. But the best way is with curtains drawn about the bed, so to shut in the smoke, that it can have no vent. And for this end unguents, oynments, Embrocations are provided of gall of an Oxe, the Goat, Hedge-hog, Calf, the Goat, Asse, with the leaves of Cucumers and Ivy, Citrons, Ising-glass, Oyl lees, Oxe dung, and the sharpest Vinegar, quick Brimstone, Squils, Capers, wilde Staves-acre, Wormwood, sweet Wine, Lime, Quicksilver, Bayes, black Soap, winter Cherries, juyce of Oranges, Lemons, &c. whereof consult *Varro*, *Palladius*, *Arnoldus*, *Didymus* and others: what concerns preventional means, Hemp-seed, or winter Cherries laid near the bed, or hanged up drive away Wall-lice. *Democritus* saith, that Harts-horn or Hares feet hanging about the bed-posts, will do as much: which another author ascribes to a Foxes ear. The dregs of boyled Butter cast where there are Wall-lice, will wonderfully kill them, for they will feed on that till they burst. May be this is that fat whereof *Cardan* speaks in these words: I knew once, saith he, but I have forgot, a fat, that being smeared on a wooden round circle, would so allure all the Wall-lice unto it, like a charm, that one could scarce see the wood for them. Some say that a half-penny laid under the bed will drive away Wig-lice. Some hang by a sheet wet in cold water, and so by actual cold they drive them away. Oyl of it self or with Vitriol, or Bulls gall, or the decoction of black Chamæleon will drive away Wall-lice. Moreover all things that are exceeding bitter, and have a stronger smell, are doubtless good against Wall-lice. And that strong smells will drive them away, *Olaus Magnus* shewes by many raw hides heapt up together. *Alexander Benedictus* saith that when these multiply over much, they foreshew the plague. For it signifies a corruption of the air, or humours, or both. *Bacchus* descending to hell, as the Greek Comedian wittily sets it down, desired *Jupiter* to assign him such Innes in his journey, where there were but few Wall-lice: yet saith *Pliny*, that concord and discord, which fills all Physick, by the conduct of nature hath produced nothing that in some part is not good for man, and therefore that which that Co-

median God thought hurtfull, mans posterity hath found beneficiall. Indeed wall-worms are of a corroding quality, yet have they place in Physick; for taken with the bloud of a Tortoise they cure the bitings of Serpents. By their smell the Epilepsie that ariseth from the strangling of the Mother, is dissolved. Inclosed in an Egge or Wax or a Bean, and swallowed, are good for an Impostume, and a Quartan Ague, and will help them (saith *Pliny*, *Dioscorides*, *Galen*, *Marcellus*, *Aetius*, *Aduvius*.) Drank with Vinegar or but smelt to, they will remove Horseleeches that stick too fast. Also the Verses of *Quintus Serenus* shew that they are good for Tertian Agues.

Shame not to drink three Wall-lice mixt with wine,
And Garlick bruised together at noon-day.
Moreover a bruised Wall-louse with an Egge, repine
Not for to take, 'tis loathsome, yet full good I say.

Gesner in his writings confirms this experiment, having made trial of it amongst the common and meaner sort of people in the Countrey. The Ancients gave seven to those that were taken with a Lethargy, in a cup of water, and four to children. *Pliny* and *Serenus* consents to it in these Verses.

Some men prescribe seven Wall-lice for to drink,
Mingled with water, and one cup they think
Is better then with drowsy death to sink.

And he of old sang, that bleeding at the nose would be stayed with the only smell of Wig-lice. Some there are, that cure dark sights by reason of a Cataract, bruising these with Salt and Asses milk. Many annoynt painfull ears with honey mingled with Wall-lice, to good purpose. Also *Marcellus* saith they stay vomiting, and he saith it is a certain remedy, if a bruised Wall-louse be swallowed in a rear-egge, by one that is fasting, and knowes nothing of it. *Pliny* seems to prove from thence, that they are good against the stings of all Vipers, Adders, and all kinde of Serpents, because that Hens that feed on these, are free from the stinging of these Creatures. *Aetius* commends Wall-lice against the Strangury, and to drive forth the Stone. *Vegetius* in this case puts one Wall-louse into the ear, another into the passage of the Yard, and with a gentle friction of the parts, he affirms that they will presently make water, which remedy he seems to have borrowed out of *Herod* in his Hippiatrics. *Galen* Exp. 5. reports, that Wall-lice will not only provoke urine, but also drank for nine dayes space, will stop childrens water that goes from them against their wills. *Valerandus Donures* an Islander, a most learned Apothecary of *Lyons*, often said, that these drank with water hot, or wine, or broth, would wonderfully help those that were troubled with the Stone. Moreover, the later writers wonderfully commend the ashes of them with a fit decoction tast in for a Clyster, to bring forth the Stone. If they be bruised and annoynted on the passage of the yard, it will presently provoke urine. *Marcellus*. There are saith *Gesner*, that for the Colick prescribe four live Wall-lice to drink in wine, in the morning, and then they command to fast two hours after, and they give as many to drink two hours before supper, and so again the next day untill they have drank up twelve Lice: truly it is a remedy to be despised, but it is no new remedy in that desperate disease, and it is a present cure. It helped *Funtius* the Governour of *Zurick* at the second taking, and so it did some of his Kindred also, and he was like to have written a commendation in praise of Wall-lice. What concerns outward diseases. If you pull up the hair by the roots, and annoynt the part affected with the bloud of Wall-lice, and let it dry, it is the opinion of *Galen*, *Aetius*, and *Nonus*, that they will never grow again. *Pliny* saith that if you annoynt the breasts with Goose-grease and Wall-lice, the pains will abate, the Moles of the matrix will break forth, and scabs of the privities will be cured. *Cornelius Gemma* in his Appendix of his *Cosmocrítica*, speaks of a woman in whose Skull opened, were found abundance of Wall-lice.

CHAP. XXVI.

Of Tikes, and Sheeps Lice.

THE Tike in Latine *Ricinus*, in Greek *κεντρον*, *Hesiodus* calls it *αροτρον*, *Suidas* *αροτρον*, and others call it *αροτρον*, *Syontinus* calls it *αροτρον*, but that is not right, for it wants wings. The Arabians call it *Alcharad*, *Alfaseset*, *Albalem*, as *Bellunensis* reports. The *Fertini*, saith *Hermolaw Barbarus*, to this very day call Tikes *galas*, as we read in *Dydimus Zelonotes*. It is called *Ricinus* in Latine, because it is like the seed of the Plant *Palma Christi*. *Gaza* calls it *Reduvium*, and *Albertus Vincentius*, *Guillerinus de Conchia*, call it *Engulam*. I think that at first it was called *Cica*, saith *Scaliger*, because *Cici* is the same with *Croton*. The Italians call it *Zeva*, the Germans *Haltzback*, the French *Plata*, from its compact body, the English Wood-teek. Some distinguish between *Ricinus* and *Reduvius*, thus very exactly.

Ricinus

Pierius is a small Insect, that when Summer comes on breeds in pastures among grasse, and in Woods amongst the leaves, of some putrid humour: with a very compact body and that feels plain, with a skin very tough, of a Diamond figured body, of a black shining colour, or a dark brown; but so soon as it fasteneth to any living Creature, and thrusting its head within the skin, & drawes the blood, in a short time it growes great and swells, and at length becomes almost round. It hath six feet fastened to its neck, with a sharp nose, but short, it produceth no young ones, nor is it produced by other living Creatures, and in this it differs from all other Insects, that it is filled with food abundantly, and yet there is no passage for any excrement, and therefore it may be the *Hethurians* call it *Caca*. Let therefore the materiall Philosophers that with *Aphrodiseus* draw all things from the manifest qualities of the Elements, consider diligently, to what default of matter or confusion they will be here forced to fly. If they imagine, that Nature wanted a bodkin to pierce a hole in the tail, they deserve to be hissed at. But rather let them here see and acknowledge that of *Paracelsus*, *That bodies may be made from Spirits, and Spirits from bodies.* *Pliny* calls a Tike a filthy Creature, the end of whose gluttony is, as to gluttons amongst men, death it self. For in a few dayes it will break with over-fullnesse; yet it will fast lustily for seven dayes. I scarce consent to *Scaliger*, who supposeth Tikes will breed in a mans beard and groins, for being there fastened it will stick close to feed it self: yet *Eustathius* and *Hesichius* are of his side in these words. It is called a Tike, because it sticks fast to what it is bred in. But the truth is, a Tike is not bred in living Creatures, but from the corrupt matter of leaves and grasse as I said before, and as *Aristotle* affirms, *Hist. 5. c. 19. Tikes breed of Plants.* May be *Scaliger* meant by a Tike some Lowse like a Crab, or some Crab-lowse in man; for they both breed in the beard and privities, and can very hardly be pulled off. It cruelly plagues men and Oxen, but especially barking Dogs. *Cato* also testifieth that Sheep and Goats are troubled with Tikes, but he was deceived by the likenesse of their bodies; for that Lowse of Sheep should be called *Reduvius*, our Countrey-men say (a Sheeps Lowse) between which and a Tike there are many and different marks: For a Sheeps Lowse hath a long little beek, and its body when it is fullest is never so distended but being pressed, it will never seem round. Also the feet of this are of a dark red, the back Ash-coloured, marked with three black spots, and it is framed after the fashion of a heart. The head is not alwayes but seldome fast in the skin, and it drawes blood forth but by turns, and it voids the excrements that breed of it by the tail, and it will dy

Wooll of so deep a green, that this cold tincture shall scarce be bettered in a hor. dying Fat. Sheeps Lice will live a whole year in shorn Wooll; but Tikes live only upon the hot blood of the Creature. Let therefore *Cato* maintain them both to be of one kinde, yet truth will maintain a vast difference between them. *Sacos* is a little Creature, like to the swellings of leprous people, saith *Albertus*. *Gesner* doubts whether he understand by that a Tike or a Breez; I rather think he meant a Tike, both from the round form of the swellings, and from their wan colour. *Cato* frees shorn Sheep from Lice with Oyl lees well putrefied, and the best lees of strong wine, and a decoction of Lupins added to them, and anoynting them with it, then let them dry two or three dayes, and after that wash them with Sea-water. The English Shepherds shear them, and then anoynt them with Tarre and Sheeps suet; or else they bruise the root of Acorns, and boyl it in water, and they foment their bodies with the warm decoction. Some use nothing but Tarre, others use the root of *Manidragora*; but care must be had that the Sheep taste it not, for fear of the great danger of stupefaction that it will cause. Others boyl the root of Cypressse, and with that boyled they wash their Sheep. *Diophanes* in *Geopon.* Against Dogs Lice the Ancients bid us to anoynt their ears with Oyl of bitter Almonds and of Walnuts; experience confirms that remedy. Also *Nemesianus* testifieth as much.

'Tis good to noynt their ears, and set them in the Sun,
Or use a red hot knife, when Lice are first begun.

Rhasis commends against *Ascharides* of Dogs or Dog-lice, to wash them with Wine, and Vinegar, Cummin-seed and Salt-water. *Theophrastus* and *Cato* prepare oyl of bitter nuts, and with that they anoynt their claws and ears, and secrets also. Tarre of Cedar kills them. *Dioscorides*. But *Columella* forbids to pull off Tikes from Oxen and Dogs, lest the places should exulcerate, and he highly commends Tarre and Hogs grease. *Pliny* saith the juice of both Chamæleons will destroy them. *Albertus* reports that Tikes blood will cleanse Ulcers, and if they be infused in wine they will presently make one drunk. *Serenus* farther commends them for to cure a Fistula in

The Use.

If that new ulcers in the secrets chance to breed,
Chew'd Bramble-leaves apply, you quickly shall be freed.
Or if from an old sore a Fistula do grow,
A Weasils ashes burnt will help't; and further know,
The blood of an Ox Tike is no means else below.

Also

Also the blood of a Tike will cure the Shingles. Also men say, that a Tike pulled out of the left ear of a Dog, if it be tied on, it will cure all pains. *Pliny* writ this out of *Nigidius*. Also he asserts that if a womans loyns be anoynted with the blood of it, she will abhorre venery. Moreover nine or ten Goats Tikes taken in wine, will stop the terms. *Dioscorides*. Anoynt your eye-lids with the blood of a Tike taken from a Bitch, the hairs being first pluckt off, saith *Galen*, *Simpl.* 10. c. 5. and they will never grow again: So also *Pliny* and *Avicenna* write, but it is from other mens opinions. *Dionysius Melesius* prescribes such a Depilatory against pricking thorny hairs: Burn a Sea-hare in a new earthen pot, and keep the ashes with Tikes blood in a horn box, use this, first pulling out the hairs. Many *English* men have learned by experience, that one dram and a half of Sheeps Lice given in drink will soon and certainly cure the Jaundies.

CHAP. XXVII.

Of the Garment-eating Moth.

P*ennius* beginning to write the history of this Insect, saith that *Tinea* is a word that signifies many things; as Lice of Hawk-weed according to *Albertus*, Wood-lice in *Plantus*, the plague of Bee-hives in *Virgil*, and it signifies the creeping ulcers of the head, that are eaten like to garments, whence it may be *Claudian* writes;

The filthy Moths have gnawn the loathsome head.

Gaza translates *αἰμας* *Tineas*, but very ignorantly, as we observed in the history of Catterpillars. Also *Pliny* saith that *Tinea* do destroy the seeds of Figs, he means the Worms that breed in Figs, from whence grow *Thris*. *Niphus* calls that little Scorpion which eats books *Tineas*, whereof I spake in the history of Scorpions. But *Σκῆς* and *αἰμας*, if a man will speak properly, is a Worm that eats garments. It is called in Latine *Tinea*, a *tenendo* from holding, for it sticks fast in garments, and will not easily change its station. The French call it *Teigne*, the Spaniards *Tina*, the Italians *Tignola*, the Muscovites *Mel*, the Polonians *Mol*, the English *Moth*, the Hebrewes *Hhaseb*, and *Sas*, as you shall finde it *Job* chap. 13. and *Isai* 51. It is a little Worm of a wan white colour, of which ariseth that small kinde of Flie that will fly at night about the Candle-light. There are some of them that are silver-coloured, the English call them silver-moths, the Dutch *Schietes*, from their swift motion. *Niphus* greatly erred, making this the Scorpion amongst Books. There is also a certain Worm that is thick, or with a coat, saith *Pliny*, called *Tinea*, that drawes its coat along with it, as a Snail doth its shell, and when she is deprived of this she presently dieth. But if this coat grow too great, it changeth to a *Chrysalis*, out of which at a set time a little Glow-worm comes. This kinde hanging by a thred, hangs a long time in houses before it changeth to an *Aurelia*. It hath a little black head, the rest of the body is a whitish dark brown, the Case of it is something long, made almost of a Cobweb, not round at all, but lightly compacted, and at each end something hairy. The *Phalenz* that come from thence stick by the feet to the roofs of houses, untill their bodies being corrupted and putrefied they are bred again: when their bodies corrupt, and their wings and feet fall off of themselves, they hang with a thred by the tails. At length they get a Case and are turned into this kinde of Moth. In *Germany* and *Helvetia* there is a Moth of a sad red colour, with a little thick head, the body grows by degrees smaller even to the tail. The colour of its belly is lighter, something yellow, and like a soft downy silk. It is a very tender Creature, especially that which is silver'd over, and it is bruised to pieces if you do but touch it. Whence that Kingly Psalmist, *Psal.* 39. *When thou with chastisements shalt correct man, thou makest him to consume away as a Moth.* And *Job*, Chap. 40. he amplifying the certain destruction of the wicked: *They shall be bruised (saith he) before the Moth.* All Moths are reckoned amongst the number of six-footed Creatures, and they breed in Garments as well of Wooll, as skins that are not cleaned from dust and filth: and so much the sooner if a Spider be shut in, as *Aristotle* writes. For the Spider drinks up all their inbred moysture, and dries them; wherefore care must be had that garments be not layd up full of dust, and when the Air is thick and moyst. Some to avoid Moths, ventilate their garments in the hot Sun-shine: which our women severely forbid, and lay them up in the shade, and when the winde is high and very cold. For they hold that the Sun-beams are kindly for Moths, but windes and tempests and the shade are enemies to them. These Worms when they have by degrees insensibly eat off the outmost superficies of the cloth, then they eat up the inward part, and so insinuate themselves into the middle substance of it, that those that search never so well for them can hardly finde them. The Ancients were most expert to kill Moths. For the garments of *Servius Tullius* lasted to the destruction of *Sejanus*, for they were kept with so great diligence by the keepers of the Wardrobe, that they neither consumed by age, nor were Moth-eaten. They that sell woollen Clothes, use to wrap up the skin of a Bird called the *Kings-Fisher* amongst them, or else hang one in the shop, as a thing by a secret Antipathy that Moths cannot endure. They are handsomely destroyed by the sent and smoke of Savin, Hops, Finger-hood, Wormwood, Rosemary, Poley, Panax, Aniseed, Golden-flower, Pomegranates, Citron-pills,

pills, (for this was the chiefeft use of Citrons in old time) the out-landish Myrtle, Cedar, Cypresse, Calamint, Brimstone, Downy feathers. The Books that were found in *Numa* his Tomb, were said to be anoynted with the juice of Cedar: wherefore as *Pliny* writes, they were supposed to be free from Moths above 530. years. The bones of *Bergesters* (I know not what beast it is) being brought to powder, and strew'd amongst garments, will drive away Moths, if we will credit *Hildegard*: *Rhasis* reports that Cantharides hung up in the middle of the house will do as much: Who saith moreover that garments wrapt up in a Lions skin, will never have any Moths. Some wet a linnen cloth in a strong lie, and dry it in the Sun without pressing it, and they affirm, that clothes wrapt in that will not be Moth-eaten. *Cato* bids sprinkle your Wardrobe with Oyl-lees. That which *Pliny* reports is a wonder, that a Cloth laid under the Biere of a dead body, will never have Moths to hurt it. The richer people, who (as *Horace* writes)

Whose hangings rot in Chests, rich for the Worms and Moths,

take diligent care in Summer to look up their garments, and taking them out of their Coffers, they air them in open place for the winde, and then they beat off the dust with the leaves of *Indian* Millet, or Hogs bristles, or Broom Mosse, or with Worm-wood branches. Of old they were wont to do it with an Ox tail; for so *Martial* writes;

*If that with yellow dust thy costly clothes abound,
Thou mayst with an Ox tail brush't off upon the ground.*

There are also rich Merchants, that have Cedar and Cypresse Chests, and they put up powder of Origanum, Worm-wood, Orris, Citron-pills, Myrtle-berries with their clothes, and by such remedies they drive far from them this Wooll-devouring Creature.

We writ before amongst the six-footed Worms, of Worms in books, wood, the skin, the fruit devourers. I have nothing more to add to this Chapter, but only to exhort rich men to lay up their treasure there, where neither Moths shall eat their garments, nor rust consume their Silver; and let them in the mean time leave off that infinite expence in clothes, of which can they look for any better end, to use the words of the *Lyrick* Poet,

Than to feed black Bugs, and the Lazy Moths?

If a man, saith *Calvin*, born of a woman, having but a short time to live, and alwayes waxing old, and corrupting, would think himself to be like a garment that Moths eat, certainly he would lay aside all pride, and blush, and fall lowly upon his knees unto Almighty God.

CHAP. XXVIII.

Of the Flea.

THE Latin word *Pulex*, in Greek *ψύλλα* or *ψύλλας*, comes saith *Isidore*, from *Pulvis*, dust, or the son of dust; in Spanish *Pulga*, Italian *Pulice*, French *Puce*, English *Flea*, the Germans from its nimbleness in flight call it *Floch*. Fleas are not the least plague, especially when in greater numbers they molest men that are sleeping, and they trouble wearied and sick persons; they escape by skipping from us, and so soon as day breaks they forsake the bed. They are a vexation to all men, but especially, as the wanton Poet hath it, to young maids, whose nimble fingers, and that are as it were clammy with moisture, they can scarce avoyd. These Fleas are either common or extraordinary. The common ones are small Creatures about the bignesse of Lice, but their bodies are softer, and they are bunch-backed, almost like a Hog, they are black and shining, their breast and belly is yellow from black, in white Dogs they are more clear, in red more yellow, in black Dogs blacker than in others. Here I desire you to observe the wonder of Nature, that their hinder little legs are bent backwards toward their bellies, and their forelegs toward their breasts, as four-footed beasts are, as it is usual almost in all Insects to whom Nature hath given but four feet. It may be for that end the joynts of Fleas are so disposed, that they may with the more ease hide themselves in the long foldings and plights of the blankets from those that hunt after them. The ends of their feet are divided into two parts, and are hooked and sharp, and seem as it were to be horny, not only that they may more surely creep up upon high places, but also that they may sit and stick faster to the smooth skin: They have a little head, and a mouth not forked but strong and brawny, with a very short neck, to which one *Mark* an *Englishman* (most skillfull in all curious work) fastned a Chain of Gold as long as a mans finger, with a lock and key so rarely and cunningly, that the Flea could easily go and draw them, yet the Flea, the Chain, lock and key were not all above a grain weight: I have also heard from men of credit, that this Flea so tied with a Chain, did draw a Coach of Gold that was every way perfect, and that very lightly; which much sets forth the Artists skill, and the Fleas strength. The point of his nib is something hard,

hard, that he may make it enter the better. It must necessarily be hollow, that he may suck out the blood, and carry it in. They seek for the most tender places, and will not attempt the harder places with their nibble; with two very small foreyards that spring out of their foreheads, they both prove their way, and judge of the nature of the object, and whether it be hard or soft: where they bite they leave a red spot as a Trophie of their force, which they set up. In rainy weather they bite sorely, and are bold to run over ever part of mans body. They have but one small intestine, with folds inward, which is either relaxed or contracted as they eat more or lesse. The lesser, the leaner, and the younger they are, the sharper they bite, the fat ones play and tickle men more willingly. It is very probable that they have eyes, both because they choose their places of retreat, and because they withdraw themselves when the day breaks. They will not sit upon corrupt or dead flesh. Those that have the Kings evil, because they are of bitter juice, and such as will die, because of the corruption and stink of the same, they will not meddle with. At all times they trouble men and Dogs, but chiefly in the night. Though they trouble us much, yet they neither stink as Wall-lice doe, nor is it any disgrace to a man to be troubled with them, as it is to be lowlie. They only punish sluggish people, for they will remove farre from cleanly houses: when they finde they are arraigned to die, and they feel the finger coming, on a sudden they are gone, and leap here and there, and so escape the danger: whilst those that hunt them endeavour to measure their jumps, as *Aristophanes* saith, they but play the fools. In the morning, after they have fed, they creep into the rough blankets, and stick to the walls, or else they hide themselves in the rushes or dust: and so they ly in ambush for Pigeons, Hens, and other Birds, also for men and Dogs, Moles, Mice, and vex such as passe by. Our hunters report, that Foxes are full of them, and they tell a pretty story how they quit themselves of them. The Fox gathers some handfulls of wooll from thorns and briars, and wrapping it up, he holds it fast in his mouth, then he goes by degrees into a cold River, and dipping himself in by little and little, when he finds that all the fleas are crept so high as his head for fear of drowning, and so for shelter crept into the wooll, he barks and spits out the wooll full of Fleas, and so very frolicquely being delivered from their molestation, he swims to land.

Their first Originall is from dust, chiefly that which is moystned with mans or Goats urine. Also they breed amongst Dogs hair, from a fat humour putrefied, as *Scaliger* affirms. A little corruption will breed them, and the place of their originall is dry filth. *Martyr* the Author of the *Decads* of Navigation, writes, that in *Perienna* a Countrey of the *Indies*, the drops of sweat that fall from their slaves bodies will presently turn to fleas. Some Countreys are such enemies to Fleas, that if they be brought in thither they cannot live, nor will they breed there; as in the Territory *Tefethor* of *Sigellunum*. Contrarily the City *Hea* by the sea-side, (unless *John Leo* deceives us) is most fruitfull for Fleas, by reason of the abundance of Goats, as also *Dede*. In *Hispaniola* Fleas are found, but neither many, nor great ones, but they bite more fiercely by farre than ours doe: they love hot places, where the Sun shines. In the Spring they multiply, at the beginning of Winter they die, for they cannot endure the cold. They copulate, the male ascending upon the female as Flies doe, and they both goe, leap, and rest together. They stick long together, and are hardly pulled asunder. After copulation presently almost, the female full of Egges seems fatter; which though in her belly they seem long, very small, very many, and white, yet when they are layd, they turn presently black, and turn into little Fleas, if we may grant what *Pennius* saith, that bite most cruelly. *Philoponus* in lib. de generat. maintains that Fleas breed not Egges but Nits, and *Niphus* saith the same: But they endeavouring to prove this because they crack when they are crushed, doth not confirm their opinion, for Egges will not break under the nail without cracking. *Aristotle* thinks, that from them, be they Egges, Nits, or little Worms, no other Creature breeds, and I should willingly subscribe to him, but that I think Nature made nothing in vain. Those Fleas seem to be more rare that *India* produceth neer the River *Nigua*, as we learn from *Thever*. They chiefly seize upon the softest parts of the feet under the nails, and bite venomously. After four dayes they raise a swelling as great as a pease, or a Chich pease, and young ones like to white Nits; and if all these be not forthwith picked out, and the place affected burned with hot ashes, the part will be lost, as it falls out often with the Slaves in *Numidia*. He also in the Province of *Peru* was subject to this mischief, and could not recover but by washing himself in the River very often.

L. 9. subtil.

Cardan writes of a little Flea. The *West-Indies*, saith he, brings forth a kinde of Flea called *Nigua*, a very shrewd plague. This creature is far lesse then a Flea, that sticking to a man will so torture him, that some lose their hands, others their feet. The remedy is, to anoynt the part with Oyl, and shave it with a Rasor: To whom *Scaliger* answers thus. Thy story of *Nigua* is lame, yet not unprofitable if you consider Philologie: I shall adde what you have omitted.

Exer. 94. n. 8.
ad subtil. Cardan. 23.

This little Flea hath a most sharp nib, and invades chiefly the feet, (seldome other parts) not only when men goe, but lye down also. Therefore the *Indians* lie high. Most frequently they bite that part which is under the nails. The fourth day the swelling begins to increase, and grows to the bignesse of a great pease. This swelling is full of young Nits; they pick out these, and lay on hot ashes. *Benzo* seems to say the same. The *Indians* are mightily troubled with venomous Insects. Amongst the rest the *Nigua* about the bignesse of a Flea, insensibly creep in between the flesh and the nails especially, and they are bred in the dust. It falls out oft times that no pain is felt by them, till they grow as great as Chich peasen or Lentils; and then with a wonderfull plenty

In Navig. list.

plenty of Nits bred, they are hardly pickt out with a needle or thorn: and this mischief is cured with hot ashes. Moreover, the slaves of *Africa* that the *Spaniards* have in their families, because they go barefoot, are shrewdly troubled with this plague, and they breed such numbers in their feet, that there is no remedy for them but the iron instrument of the fire, whence many of them want their toes or their feet. Fleas will dye from extreme cold, and therefore in the colder winter they are not to be seen; or else we kill them when we can catch them. And one dog will as willingly bite out the Fleas of another dog, as they will scratch one the other. Also most bountiful Nature hath supplied us with a large field of remedies, that the Fleas that hide themselves, and leap away from us, may be destroyed by us, and we preserved from them. For we have herbs, Dwarf Elder-leaves, Fern-root, or Anchusa, flowers of Peninroyal, Rue, Colocintida, Brambles, Oleander, Mints, Horse-mints, Hops, Rape-seed, Cumin, Staves-acre, Fleabane, Conyta, Saffron, Coriander, Celendine, sweet Cods, wilde Cicers, Arsemart, Mustard, Lupins, roots of Chamaelea, Hellebore, leaves of black Poplar-tree, Bayes, Walnut-tree, with the oyls of these, or the boyl'd decoctions, if the pavement be sprinkled, or the house be perfumed, the Fleas will be gone, and most of them are killed. Above all, the dregs of Mares-pisse, or sea-water are commended, if they be sprinkled up and down; also Harts-horn burnt is very good. Goats bloud set in a basin or a pit, drawes all the Fleas to it, as also a staffe anointed with the fat of a Hedgehog or Cony, Ape, Bear, Bull, or Fox, will do the like. The water of the decoction of Arsenick or Sublimate sprinkled is a certain experiment to destroy them. Quicklime mingled with the juice of white Hellebore, doth the same. A Gloeworm set in the middle of the house, drives away Fleas. Fleawort in the City of *Chaire* is powdred, and the powder is strew'd about the beds, which by its smell doth astonish the Fleas that they will not bite. If a Flea get into ones ear, pour in Oyl mingled with a little Vinegar or juice of Rue, oyl of Spike, Turpentine, or oyl of Peter, is very useful. These remedies may serve the turn, which are taken from *Apfyrus*, *Varro*, *Columella*, *Galen*, *Aetius*, *Palladius*, *Avicenna*, *Rhasis*, *Kiramides*, *Guilielmus*, *Placentinus*, *Joanicus*, *Bellunensis*, *Hermolaus Barbarus*, and *Pliny*. The *Barbarians* (saith *Levens*) that the Fleas may not bite them, anoint themselves with oyl that is thick and red, pressed out of fruit, which they call *Conrog*. *Petrus Gallisardus*, *Celius Chalcagninus* and *Tzetzes*, are reported to have written the commendation of a Flea; it was my desire to have seen this, but it was never my chance.

CHAP. XXIX.

Of Insects that want feet, and first of Earth-worms.

SOME earthly Insects that have no feet are bred in the earth, some in living creatures, some in plants. Earth-worms by *Plantus* and *Columella* are called *Lumbrici*, may be from their lubicity. Also they are called the entrails of the earth, both because they are bred in the bowels of the earth, and because being pressed, like the entrails of living creatures they cast forth excrements, also because they are like them in form and fashion. The Greeks call these γῆς ἐντέρας, ἐντέρας *Hesichius*, and the Syracusians, γαστήρας; the English *Meds*, *Earth-worms*; the French, *Vers de Terre*; the Italians *Lumbrichi*; the Spaniards *Lombriz*; the Germans, and those of Flanders, *Erdwurmen*; the Arabians, *Charatits*. *Manardus* writes, l. 2. ep. 4. that Earth-worms were called *Ovisculi*. Earth-worms are greater or lesser.

The great ones, are long Worms, almost like those round ones that are bred in mens bellies, half a foot long, and stretched out a foot long; they are of a weak flesh-colour, and for the most part they have a ring or else a collar about their neck that is thick, wherein there is a little bloud contained: they have no eyes, for no Worms have any. They first breed of putrefied earth, they are afterwards fed by the same, and lastly they are resolved to earth again. Those that you see wreathing little hills at the brink of their holes, as I suppose those heaps are their excrements; for in them we finde nothing but earth, the nutrimental juice whereof being spent, they cast forth the rest as unprofitable matter at their doors, and they are fenced by it against the rain falling in. At night chiefly when it is rainy weather, they willingly copulate, and stick fast till morning. They are not wrapt together in copulation like Serpents, but they stick fast together by their sides, sending forth a frothy kinde of spittle when they copulate: when they are in conjunction, they keep the middle of their bodies, that is the hinder half in their holes, and they are never so fast glewed together, but with the least motion of the earth they can easily part: in rainy weather they are whiter, unless it be when they copulate, for then especially they are red. *Gesner* saith in the middle of *April* he dissected a female Earth-worm, that was very thick, within the flesh through the whole body, a receptacle descends, that is ringed, covered with a thin membrane: when he dissected it, it stank filthily: in this is the earth contained that they take in; but above this receptacle there lie white eggs very many heaped together, next the mouth.

The lesser Worms, for clearer description sake, I will with *George Agricola* call *Ascarides*, they are frequently found in dung-hills, and under heaps of stones: some of them are red ones, they call

call them *Duggs*, and fishers much desire them; some are wan-coloured, others have *yellow tails*, and are so called; some also are with collars and are fat, others without collars and slender, which I take to be the males. These are bred chiefly in Autumn by reason of no plenty of moisture, as *Aristotle* seems to affirm. Both kinds live long in water, but at last they die for want of food. They move from place to place with a certain drawing and pulsation, for the Philosopher saith they do not properly tumble along. The *great ones* live in the bowels of the earth, especially in the open air, and where men oft-times resort. In the morning when they withdraw themselves into their holes, when the air is clear they fence them with earth cast up, but in rainy weather, they stop them by drawing in some stalk, they feed frequently on earth, but most greedily on a piece of white bread unleavened, as I learned from our *Turner*, a very credible man, and have oft-times seen it. Many of them dye if the Winter be too cold, or the Summer too hot. Moreover they are taken by Fishermen, and driven forth of their holes either by digging, and shaking the earth, or by pouring in some liquor of strong juice, as of Walnut leaves, Hemp, or strong Lye. It is good also in tempestuous and dark nights to go into gardens silently, (which they miserably hurt) and to creep upon them when they couple, by the help of fire carried in a horn: for so in one night thousands of them may be intercepted and killed.

The Use.

Uses of this despicable creature are observed to be many; and Nature scarce affords any simple that she hath bestowed more vertues on against diseases. For Earth-worms soften, glew together, ease pain, and by their earthly and watry moisture together, they duly temper the part affected. Powder of Earth-worms is thus prepared: Wrap up great Earth-worms for some time in earth-moss, that so they may free themselves of that glutinous matter that sticks on their outward parts; then press their hinder parts next the tail, that they may cast forth their excrements and be cleansed. Then cast them into a vessel of white Wine and a little Salt, and gently pressing them with your fingers, cast away that first Wine: pour on more, and after the Worms are washed, take some part of this away also: for it must not all be cast away, as some would have it, till it be perfectly clear, for so that glutinous clammy quality would be lost with it. Thus prepared, they must be gently dried in a furnace, till they will crumble into dust when you touch them. Then the powder being beaten and seared (it will smell like Runnet or Cheese) must be kept something far from the fire in a glass vessel. Otherwise it is best to kill the Worms cut in pieces in Wine and Salt, and when they are dead, to take them out and to cleanse them. This powder with the juice of Marigolds, will cure the Epilepsie; with Mead, the Dropie; with white Wine and Myrthe of the Troglodytes, the Jaundies; with boyled Wine, Hydromel, or Wine, the Stone, the Ulcers of the reins and bladder; you may give a dram weight. In three cyathi of water they will break inward Impostumes, and bring them forth, if seven or nine of them be brought into powder. They stay also the Dyarrhoea, help Barrenness, bring forth the Secundine that staves behind, ease the pains of the Hip-gowt, open the Liver, cure Tertian Agues, kill and drive out all Belly-worms, given in liquors or decoctions that are proper for it. Also the decoction of Earth-worms drank with the juice of Knot-grass or Comfrey, is good against continual pissing, especially if it be also cast in by a Clyster. Also a Clyster of their decoction easeth the Emroids wonderfully. Some, where they suspect clotted blood, give the decoction of Earth-worms to drink with great success. For the diseases of the Ears almost past cure, boyl them in Goose-grease and pour that in. Boyled in oyl for the Tooth-ache, and poured into the ear on that side the pain is, as *Pliny* saith, they give ease, or if you drop them into the contrary ear, as *Dioscorides* saith. Thus far for Earth-worms given inwardly, from experience and testimony of *Dioscorides*, *Galien*, *Aetius*, *Agineta*, *Myresus*, *Pliny*, *Vularis*.

Also outwardly applied and bruised, they joyn wounds and neives cut in sunder, and heal them in seven daies; wherefore *Democritus* would have them kept in Honey. Their ashes with old oyl, cleanseth corrupt Ulcers; and as *Pliny* writes, confirms the hard edges of them, if it be mingled with liquid Pitch and Simblick Honey, *Dioscorides* saith *Sicilian Honey* is called Simblick. A certain Chirurgion now in *England* of good note, makes a liniment of Earth-worms and Honey, wherewith he anoints the rent, and sprinkles it with fine powdred Allum, and puts it into a Fistula, and so brings forth the core eaten out with no pain, and heals the wound. Also their ashes drawes forth things that stick within, and laid on with oyl of Roses cures Kibe-heels. *Marcellus*.

Serenus saith, that when the nerves be cut in sunder, it is good to lay on Earth-worms bruised with Hogs-grease that is old and rank. *Marcellus Empiricus* adds Groundsel to the Hogs-grease and Earth-worms, with the tender tops of Box with Frankincense, and this he laies on the nerves cut or pain'd: *Pliny* saith that the ashes of these and of a wilde Mouse, laid on for a plaister, with oyl of Roses, is excellent for broken bones.

For the great pains of Horses in their nerves or joynts, to help them, *Russius*, *Absyrus*, *Didymus*, collect a great number of Earth-worms: whence *Cardan* gathers that they will ease all pains. *Mundella* affirms that contraction of the nerves will be cured if you anoint them with oyl of Camomil that is well replenished with Worms. *Marcellus* saith that the same is done with Honey and Worms, as before. *Aetius* saith, without doubt they are an excellent remedy for the Gowt boyled in oyl, and a little wax: so saith *Marcellus*, but he sometimes mingles Honey with them. *Vigo*, for pains in the joynts, makes a plaister of these and Frogs, to which he adds Vipers-grease.

For pains of the joynts: Take ashes of Worms ii. ounces, oyl of Roses, or Foxes, what may suffice,

suffice, mingle them to an ointment. *Another that is singular:* Take the marrow of a Calfs leg compleat, and old oyl of Roses iij. ounces, Earth-worms cleansed with Wine and Salt ij. ounces, let them boyl in Balneo to the consistence of a Mucilage; with this anoint the neck, shoulders, and the places where the pain is, for it gives great help, *Pliny*. *Marcellus* anoints them with Honey, and then he laies on the Mucilage prepared. When any part is wasted and receives no nutriment, cleansed Worms must be put into a glasse very well luted, that nothing may breathe forth, and so set in a warm oven or in Balneo, and they will then resolve into a clammy moisture; an admirable remedy and approved for the Palsie of the limbs: Take the ashes of tender Earth-worms iij. pounds, Ginger, Galanga, of each iij. ounces, with clarified Honey incorporate them for an Unguent, with this for three nights together anoint the Patient, binding his arms forcibly over his belly or stomach, then cover him warm, and let him beware of cold. *Jacobus de parma* To drive away hoary hairs, women use these ashes mingled with oyl whilst they comb their head, as *Pliny* saith, to whom *Serenus* subscribes in these verses:

*Earth-worms and oyl of Olives, free from cares,
They will preserve a man from hoary hairs.*

We said before how they cure the Tooth-ache. But further the powder of them rubb'd on will preserve the sound teeth, and being injected will make rotten teeth, though it be a grinder, to fall forth; especially, if the tooth be first scarified, and fill'd with powder well sprinkled on it. *Aetius*. *Gal. 5. sec. loc.* bids us do almost the same out of *Archigenes*. Also they are good with the root of Mulberries boyled in Vinegar of Squils, to wash the teeth. For purulent Ears, poured in with oyl they help much, as *Galen* thinks, and cure their inflammations, being boyled with oyl of Roses. *Aetius*.

*If that your hearing fail, an old disease,
Is cur'd with Earth-worms boyled with Ducks grease.* *Serenus.*

Myrepsus bruise Worms with some small quantity of the earth from whence they were taken, and works them together, and anoints that upon ears that are bruised. *Marcellus* bruise them with oyl of Roses, *Celsus* with oyl of Olives. *Faventinus* for pains of the ears anointeth the outward parts with oyl of Earth-worms, and also pours it into the inward parts. *Marcellus* bids to bruise Leeks not planted but sowed, odd in number, and as many Worms together, and boyl these in the best Oyl to thirds, and he saith that this oyl put into the ears is very good for their greatest pains and deafness. *Abinzoar* cures clefts of the hands and feet with oyl of Earth-worms. For an old pain of the head, they are held very excellent bruised with Vinegar, Frankincense, and Castoreum. *Galen* for the same prepares in his *Euporists* such a Remedy: Take xv. Earth-worms, as many grains of Pepper, Vinegar what is sufficient, mingle them, smear them on. *Another*: Take Earth-worms, Mouse-dung, white Pepper, Myrrhe, each half an ounce, bruise and mingle them with Vinegar, and anoint that part of the head that the pain lies on. *Myrepsus* will have the Worms to be odd, and to be taken only with the left hand, and so superstitiously anointed. If thou wouldst try, saith *Marcellus*, whether a swelling in thy neck be the Kings-evil, lay a live Worm upon each swelling: if it be a scrophulous tumour, each Worm will turn to earth; if not, he will be alive and receive no hurt: so saith *Pliny* also. Earth-worms are a part of that noble Plaister of *Arnoldus* (2 *Breviaris*) of a Rams skin, or the blood of a man that is red, against the Rupture: and *Hollerius* commends it to cure *Enterocoele* and *Epiptocoele*. They also diminish the Stone, both taken inwardly, as also anointed on the shere somewhat thick. *Gal.* What concerns womens diseases, bound to the neck they retain the birth, but contrarily applied to the hips, they draw the birth out and the secundine, for they draw mightily wheresoever they are applied living. *Pin.* Inflammations of the breasts, Earth-worms alone laid on will cure, for they concoct, open, draw forth, and heal. *Alex. Benedict.* So *Myrepsus* makes a plaister of them bruised. Lay on Earth-worms with Quinces, or with dried Barley flour, upon Breasts hardened or inflamed. *Aetius*. But if after delivery womens breasts swell, and to use the words of *Serenus*:

*If the swoln breasts do feel great pain,
Smear them with Earth-worms 'twill help them again.*

For they will concoct the Impostumes and suppurations of the breasts, and after concoction will heal them and void out the matter. For the Shingles, the *Indians*, saith *Carolus Clusius*, make an unguent thus: Take Earth-worms, and feed them some time with leaves, fine flour, or flour and milk, and when they are grown fat, boyl them in an earthen vessel (alwaies schimming them) when they are strained, boyl them again to the consistence almost of a plaister, which well prepared will be almost of a yellow colour; dissolve some part of this in distilled water of Roses, and wash the part affected with it twice a day. A most excellent remedy, saith *Clusius*, and proved by very long experience. *Pliny* saith they will do the same in Vinegar, who together with *Aetius* and *Myrepsus*, affirms that Worms bruised and laid on the place a Scorpion hath stung, are an admirable remedy, for they presently ease the pain, and correct the malignity of the tumour.

Oyl of Earth-worms is known by all to be good against divers infirmities, and the Ancients made it thus. Take Earth worms half a pound, Oyl of Roses, Omphacine, two pound, the best white wine two ounces, let them boyl in *balneo* till the wine be consumed. This cures the nerves relaxed, contracted, astonished, cut in sunder, or cooled, it easeth almost all pains, and waists the stone, being anoynted on the share and loins. But in the preparing of it, every man follows his own opinion. For some before they adde Oyl, wash and purge them with white wine, some neither wash them nor presse out the earth, and perswade to take the best wine, that it may penetrate the sooner: Others use simple Oyl, not Oyl of Roses, others again Oyl of Chamomile. Also they shew us many wayes to boyl them, for one useth a furnace, another *Balneum*, another doth it in dung, and some mingle of Chamomil flowers, and of Dill, to assuage pains, some of Hypericon flowers to glew wounds together, others Snails without shells, others with shells, every one as he thinks fit. The Author of *Bartapalia* prepares an admirable water of Worms, fol. 254. that is very good for wounds and diseases both outward and inward. For Worms of Horses and Oxen. *Pelagonius* puts live Earth-worms into their nostrils, yet it were far better with a horn to put them down their throats into their stomachs. *Tardius* bids give ashes of Earth-worms bruised with flesh to a Hawk, when she cannot mute. They are also meat for Moles, and when they dig, they will break out of the earth in wonderfull haste. Sows (as *Varro* writes) will trouble the mud, and dig up the earth with their snouts to feed on them. *Albertus* saith that Toads, *Bellonius* Lizards, *Tarentinus* that Sea Grampets, and experience saith, that Frogs, Eels, Gudgeons, Carps, Roches, Trouts, Darcæ, and Tenches will greedily devour Earth-worms. Also that bird *Aristotle* calls *Αἴξ*, some call it *Vangellus*, and Hens, and all Quails will feed on Worms. But those are no wise Fisher-men, that cause Worms to come forth with medicinal juices, for when they are bitter the Fish will not bite, but if they lie a day in Wheat-meal and a little Honey, and then put upon the hooks, they relish better then *Ambrosia*: And it is no ordinary good we may receive by them, that they foreshew rain when they suddenly come forth of the earth, but if they lie hid the night before, it is a sign of fair weather. Some do harden Iron like Steel thus. Take Earth-worms two parts, Radish-roots one part, bruise them, and distill the water in a Limbeck. Or take distilled water of Earth-worms three pound, juice of Radishes one pound, mingle them, let Iron hot be often quenched in this water, and lie in it ten dayes, and it will grow very hard. Another. Take Earth-worms two pound, juice of Radish one pound, distill them at an easie fire, and temper your Iron with this distilled water. Also draw forth juice of Sorrel, stinking Hemlock, and of round *Aristolochia*, of each alike, and temper your steel often. The juice of Sow-bread is thought to do the same. Mr. *Fakenham* a famous Physitian writes thus. Another. Take Goats blood, adde to it a little salt, let glased pots be buryed in the earth, well luted for thirty dayes, then distill the blood in *Balneo*, and put as much of the distilled water to the same quantity of the water of Worms. Another. Take water of Worms, Rapes, roots of Apple-trees, each alike, distil them apart, and mingle equal quantities together, and quench your Iron in that water, as we said before. A Frenchman namelesse.

CHAP. XXX.

Of Worms in living Creatures.

The Name.

Isidorus thinks they are called *Lumbrici* from *Lumbi* the loins. For the Ancients call the belly *Lumbos* and *γαστήρ* by *Hesichius*, and *Suidas*. Some interpret that, those that are sick of Worms. But more rightly from Earth-worms, which they represent in form and nature, doe they borrow that name. *Cornelius Celsus* calls them Worms, *Pliny* the living Creatures of the entrails. The Greeks call them *ἐλμυνδεις*, *ἀλμυνδεις*, *ἐλμυεις*, *ἐλμυρες*, *δελμοι*, and when they are extraordinary great, *βελία*, as appears out of *Aelian*, l. 9. c. 33. You must observe, that Latin writers make difference between *Vermes* and *Vermia* or *Verminationem*, that is Worms, and diseases from Worms in the belly; for *Vermia* and *Verminationem* are the pains of the belly from Worms, as *Celsus*, *Serenus*, *Pliny*, and *Seneca* Epist. 97. testifie. The Arabians call them *Emicar*, *Sylvaticus* *Elingen*, the Germans *Spulwurm*, *Bauchwurm*, the English *Gutworm*, the Slavonians *Sskrkawka*, a word hard to be pronounced. A belly-worm is a living Insect, without feet, bred in the bodies of living Creatures, hurting their operations diversly. I said a living Creature, that I might exclude those broad Worms called *Tenia*, which though they be of substance that grows to the guts, and are in form like to living Creatures, yet they cannot properly be accounted living Creatures, as *Hippocrates* l. de morbis, rightly affirms. I said an Insect, both because they are of a round body, and because the Ancients do not reckon them amongst Serpents, nor have hitherto ranged them into any proper Classis. I said without feet, that I might distinguish them from Worms with feet. I said bred in the bodies of living Creatures, because they are not only bred in the guts of living Creatures, but in all the fleshy parts, and in the heart it self, as it shall appear by the history. And not only men are troubled with them; but also Horses, Calves, Dogs, Hogs, Hawks, and all perfect Creatures. I said that diversly hurts actions, because from them, pains, Consumptions, Convulsions, Epilepsies, Frenses, and divers other mischiefs follow, especially if they be very great, or very many.

The Description.

And all these Worms breed either in parts that are alive or dead. The worms in living Creatures seem to be of three sorts, the *round Worms*, *Gourd-like Worms*, and *Ascarides*, such as are bred often in the Intestines of living Creatures: And not there only, but in other vessels and bowels; of which matter I finde there was a great controversie amongst the old Authors. For *Galen* *l. 1. de loc. aff. c. 5.* assigns certain diseases to certain parts, as worms to the guts, the Stone to the reins and bladder. But I my self with many other persons of the University, saw a stone as great and like a Pigeons Egge, voided by stool, at *Cambridge*, by *Dr. Larkin* the Kings professor in physick, who was long tormented with a pain of the Colick, and waiting, and he voided that stone in the same form and magnitude, as a most troublesome birth at his fundament. *Montanus* and *Benivennius* write that they saw the like. Also by giving but one Clyster to the choise wife of noble *Leonardus*, I brought forth 35 stones like to Medlar seeds, at one time in the year 1583. Many there are that question the credit of *Pedemontanus Arculanus*, *Guainerius*, *Trallianus*, *Benivennius*, and *Montanus*, because (besides the opinion of *Galen*) they have written that they have more then once seen stones in the head, lungs, greater veins, the gall, bladder, under the tongue, in the joynts, and belly. But since daily experience doth clear them from a lie, we may say that the *Greek* speak, as *Greeks* were wont to doe, but that these men speak but the truth. *Galen* might have remembered, that *Hippocrates*, *Epid. 5. sec. 12.* did not rashly affirm, that there was a sharp stone pressed out of a womans matrix, by the hand of the Midwife, as great as the whirle of a Spindle. This I thought fit to premise, lest when I shall report them, the faith of others and my own experience that worms are bred almost in every part, others should think I relate either a thing very strange, or what is false. Worms seldome appear in the most vehement pain of the *Hemicrania*, yet *Hellerius* teacheth that it so comes to passe sometimes, *l. 1. c. 1.* The *Polonians* call this disease *Stowmy Roback*, the *Germans* *Hauptwurm*, and it was formerly frequent in *Germany* and *Hungary*, and all that were taken with it fell into the frenzie, or madnesse, and when they were dead, and their brains were opened, a Worm was found there. Then the Physitians gave Garlick with distilled wine once or twice a day, and all that drank of that recovered, the rest dyed. *Philip Shot* cured five of his servants that were sick of that disease, with the same remedy, as one writ in a Letter to *Gesner*. That Worms are often seen in the brain, *Thomas a Vega* saith, *com in cap. 5 l. de loc. aff. Galeni*, and *Balthasar Conradinus* *c. 10. de feb. Hungar.* Also *Cornelius Gemma*, in *Appendic. operis Cosmocratic.* disputing of a pestilentiall Semitertian, speaks of a woman in a city neer the river *Mösa*, that had a long and vehement pain in her head, when she was dead of it her brain was opened, and there was found a great quantity of filth, and abundance of Worms. That disease is known saith *Rhasis*, by the internall corroding of the forepart of the head, and by the most vehement pain, that almost makes them mad. It is cured by neefings, and juices cast up into the nostrils, that wil kill Worms. *Rhasis*, *l. 1. c. 9.* But the Worms that are yearly found in the brains of Stags, and sometimes of Goats, Sheep, Rams, (chiefly those that are fat) that Hunters and Butchers know better, than that I need to tell them. They are as big as the greatest Worms, and of the same form with them, as *Alexander Benedictus* and *Matthiolus* report. *Theophrastus* mentions these *Hist. lib. c. 53.* and *Alexander Trallianus*, *l. 1. c. 15.* It is reported that *Democritus* of *Athens*, when he was young was troubled with the Falling sicknesse, and he went to ask counsell of the Oracle of *Apollo*, and *Apollo* answered him thus:

Take a tame Goat that hath the greatest head,
Or else a wilde Goat in the field that's bred,
And in his forehead a great Worm you'l finde,
This cures all diseases of that kinde.

The young man was much troubled at this answer, and he repaired to *Theognostus Democratus*, that was then ninety yeers old, to tell him the meaning of the Oracle. This *Theognostus* told him that nothing could be plainer, for he had learned by long experience, that there were Worms in the heads of Sheep and of Goats, that being wrapt in a black Sheeps skin, and hanged about ones neck, would miraculously cure the Falling sicknesse. Some write, as *Pliny* witnesseth, that two Worms are found in the head of a downy *Phalangium*, which Worms bound up in a Deers skin, and bound to a woman before the Sun-rising, would hinder conception. Concerning Worms of the Abdomen. A woman, saith *Pemius*, that I knew very well, told me that she had seen more than once, some round Worms, that crept forth of the belly by the Navel.

The Ancients also say, that oft-times Worms will breed in the ears, against which they prescribe these remedies. Take the juice of wilde Cucumbers, and the juice of Garden-sage, or that with broad leaves, mingle them both alike, and pour that into the ears. *Gal. l. 3. sec. loc.* where reckoning up the Compositions of *Andromachus* for the ears, he highly commends this of *Pritanis* and *Harpalus*. Take Opium two oboli, Myrrhe, Spikenard, Saffron, of each three oboli, burnt brasse five oboli, and of round and *Sicil Alum*, each one dram, black Hellebore two drams, mingle them with sod wine or Oyl of Roses, and apply them to the ears. *Lib. Euporist. 2.* he writes, that a Locust will destroy Worms in the ears, and he bids apply a sweet Apple to the ear, with a hole in it almost quite through, for the Worm will come forth, enticed by the sweet smell of it. *Pliny* much commends the root of Cypressse boyled in water, and the urine of a young boy, and the juice of Hemp, Rue, Bramble, and of Capers powred in. Lastly, many remedies may be fetcht from

Columella, Vegetius, Marcellus Empiricus, Trallianus, Vigo, Tardius, and all the *Arabians*, and therefore here I supersede, passing on to other matters. *Monardus* prescribed to one that had a Polypus in his nose, the juice of Tobacco to be injected; whereby the Ulcer was purged, and many little Worms came forth: Wherefore they breed also in the nostrils, (for all the Arguments that *Gabucinus* hath alleadged against it) and are not only cast forth of other parts. Cow-herds know that Worms will breed under the tongue, and the Worm under a Dogs tongue (the carrying of which Worm about one, saith *Pliny*, will drive off the biting of a mad Dog) doth prove that sufficiently: And *Valescus* saith he hath seen Worms under mens tongues. It is known sufficiently by experience, that the very Breast and Lungs are not free from Worms; *Antonius Benevennius, Benedictus Renius, Mundella, Antonius Siculus*, are my witnesses, who have seen them cast up, not by vomit or reaching, but even by coughing. Also *Alfaranius, Capite de Tussi*, writes, that sometimes a cough is caused from living Creatures bred in the hollow of the lungs, and cavity of the breast, which being no greater than little Lute-strings, yet when they creep from place to place they make one cough, and when they lie still it ceaseth. Also *Abenzoar Abhomeron. lib. 1. tract. 11. c. 3.* makes mention of them, affirming that the old Physicians saw and writ of them. *Albertus* and *Gentilis* saw some in the liver and spleen, and *Platerus* in the gall bladder. Wherefore, whatever *Galen* or *Avicenna* may say to overthrow this from the perpetual motion of the Lungs, the nearness of the heart, and other frivolous Arguments, yet there is no man but will say, but that reason must give place to sense, especially in natural things. There was saith *Hieronymus Gabucinus*, a certain Noble woman of *Fanes* (in his Comment of Worms, to which we are indebted for the great part of this history) when she had a long time been tormented with pain of her stomach, at last she cast up a ball of hard flegme, this being dissected, it seemed like a piece of flesh, and in that there was a Worm, and thus the woman recovered, whom the neighbours thought to be bewitched. Of Worms of the Reins and Bladders. When the reins putrefie, or the muscle of the bladder, oft-times little Worms are cast out, concerning which I thought good to write these histories out of *Pennius*. A woman thirty six years old, had great pain of an Apostume in her reins, and she consumed, at length she cast forth little Worms, a fingers breadth long, which I first saw in the bottome of her urine, Anno 1582. *Randolph* a London Physician, very learned and pious, when he looked on at the dissection of the body of one that was dead of the Stone in the kidneys, he found in one of the kidneys that was corrupted, it was wrinkled and putrefied, a Worm of a full length. *Timothy Bright*, a very skilful Physician, and to whom we are much indebted for the Epitomie of the Ecclesiastical History, saw a Scholar at Cambridge when he lived there, that pissed out a Worm an inch and half long; but it was not without feet as Worms are, but it had many feet and was very nimble. *Aloysius Mundella Medicina Dialog. 4. Argenterius cap. de vesic. morb. Rondeletius lib. de dign. morb. c. 17. Scholiasies Hollerii lib. de morb. int. cap. de vesic. affec.* (to say nothing of *Levinus Cardan*, and my own experience) do sufficiently testifie that such Creatures breed also in the bladder: That Worms come forth of the matrix, like to *Alcarides*, I did not only see at Frankfurt in a German woman, at eighty years of her age, but *Aloysius* confirms the same in his Epistle to *Gesner*, and *Hippocrates 2. de m. mulier.* and *Avenzoar. lib. 1. tract. 2.* have said the like. *Kirandis* writes, that there is a Worm to be found in the matrix of a Mule, which tied to a woman will make her barren. In India and the Countreys above Egypt there are some living Creatures like to Worms in form, (they are commonly called Dragons) they are in the Arms, Legs, Shanks, and other brawny parts, also in young children, they breed in secret places under their skin, and more apparently: When they have staid there for some long time, at some end of this Dragon the place comes to supputation, and the skin being opened, out comes this Dragons head. *Paulus lib. 4. c. 59. Soranus* granteth this, but he questions whether they be living creatures. Moreover, in the bloud it self some living creatures breed, like to Worms, that feed on the body, as *Pliny* writes, *Hist. 26. c. 13. Plutarch 8. Sympof.* who writes, that a young man of Athens voided Worms with his seed. *Egineta* saw them come forth at the groins and buttocks, as he saith *lib. 4.* to whom *Benevennius* subscribes c. 100. Also they breed under Sheeps claws, (saith *Columella*) and such I have seen under the nails of those that were troubled with a Whit-flaw. And thus farre concerning Worms in the bodies of living Creatures. But such as breed in dead and corrupt bodies, (whether it be from the disease or the Chirurgeons fault) want a Latin name, but the Greeks call them *Eulas*, as appears by *Hippocrates*. The English call them Maggots. *Calim* would also have them called *Eulas* in Latin, borrowing the word from the Greeks. We will speak of these in order. And first concerning Worms of the guts, the descriptions whereof, the causes, signs, symptomes and cure will bring much light to the History of the rest.

Remember the Cook of Queen Mary that cast out a Scolopendra by her nostrils, &c. Mr. Crane.

See de Vera Medend.

CHAP. XXXI.

Of the Description of Worms in the Intestines.

WE shewed before that there are three sorts of Worms that are bred in the guts. It will be worth our labour to describe what each of them is. The round Worms are the first difference, and that manifest to all men, because these are the most common, and are so called, because they are indeed round and smooth, not unlike to those worms that breed in dunghills and gardens, which we said before are called by the

the Greeks, the bowels of the earth. These as all other Worms are blinde, without any eyes, and they are a hand length or something more: yet *Benevennius* c. 2. affirms that a Smith did vomit up a Worm with grosse flegm, almost a foot and half long, very plain, with a red head that was smooth, and about the bigness of a pease; but the body of it was downy, and the tail crooked like the half-moon. Also at *Rome*, anno 1543. one that was now upon his youthful years, when as for many daies (as *Gabucinus* tels the story) he had been in great torments of his belly, at last he voided by stool a great black Worm with black hair, five feet long, as big as a cane. He saw one also that did not exceed the hands length, like to the round Worms, but that the back of it was hairy, and set as it were with red hairs; but this being cast forth by using good remedies, he grew very well. One *Antonianus* a Canon (as *Hieronymus Montanus* tels the story) voided a green Worm, but he died shortly after he had voided that. But for the most part they are smooth and not hairy, a hand long and not a foot, at both ends pointed, as it were with a nib. And they differ so far from Earth-worms, that they wear no collar nor girdle: what concerns their colours, I have seen some red, yellow, black, and partly white, or gold colour. Green ones are seldom seen, yet *Montanus* saw some. Gourd-worms are those quick Worms that are like unto Gourd-seeds; concerning which the question is so great between *Gabucinus* and *Mercurialis*; for when he treats of a broad Worm, that is made of an infinite number of Gourd-seeds shut up in a skin; he saith thus: I, saith he, think a broad Worm to be nothing else but, according to *Hippocrates*, as it were a white shaving of the guts, that comprehends all the intestines, between which some living creatures are bred like unto Gourd-seeds: which may then be seen to be voided when all that shaving is voided, yet oft-times it is voided by parts: which if they break when they are voiding, then you may behold these Worms like to Cucumer-seeds voided by themselves, sometimes many of them being folded together, sometimes but a few. But if any man shall see all that portion, let him know, that that scraping off like a Worm doth not live, but the creatures that are in it, like Cucumer-seeds. I once saw this Worm called a Broad Worm that pants, to have been of a wonderful length, and it crawled, a woman in a Quotidian Feaver voided it by siege, and when I did with admiration much view it, and sought to finde the cause of its motion: that other man, who said he voided a portion of a broad Worm some daies before, which he would shew unto me for a wonder, did shew it me with incredible desire I had to see it; for this portion did move it self, whence I was more desirous to know the cause of that. At last searching diligently, I observed through the whole hollow part of it, a rank of living creatures like to Cucumer-seeds, which crept forth of it as out of some bed, sometimes one, sometimes two folded together, oft-times four, or more, and that part of the shaving of the guts that was empty of these creatures did not move at all, but sank down: whence it comes to pass that I think a broad Worm is nothing else but snotty matter bred between the guts, or snively flegm thickned by the coldness of the guts, covering the inside of the guts like a coat, which women that assist the sick call a bed of Worms. Out of which snotty matter little living creatures like Gourd-seeds proceed, as by way of a conception, which is covered all over by the second membrane in the womb which is first made of the seed. So saith *Gabucinus*. *Avicenna* agrees in this opinion, *Fen. 16. tract. 5. cap. 2.* the Gourd and broad Worms are bred from the clammy matter that is fastned in the superficies of the guts, which is comprehended by a flegmatick pannicle covering it as if they were bred from that, and did putrefie within it. *Antonius Benevennius* a Florentine saith the same, and more clearly, in *com. de mirand. morb. causis*, c. 87. who writes that in the mineral Baths at *Avignon*, that are in the Countrey of the *Senones*, he saw a woman that for seven daies together drinking the water, did void these Gourd-worms in abundance, that stuck so fast together, one being close to the other, that they were in a rank that was above four cubits long, yet you would judge them to be but one body and one Worm. *Johannes* a Bookbinder at *Basil* (whilest I studied Physick there in that Academy, under *Zuingerus* and *Platerus* my Masters, anno 1579) voided such a Worm ten ells in length without any pain, and not many years before he had voided the like. It consisted of many Gourd Worms; without which it had had no motion nor feeling, and might deservedly have been rejected from the number of living creatures. *Platerus* had such a Worm dried that was eighteen ells long, I saw it. *Pliny* writes of a Worm a sick person voided, was three hundred foot long: wherefore whatsoever *Mercurialis* objects to the contrary, *lib. 3. de morb. puer. cap. 7.* since experience proves the thing, is without any firm ground. He saith it cannot be that any living creature can produce so many young ones, as there appear like unto Gourd-seeds; then, that the guts are not large enough to receive so many young ones. Thirdly, that this comes to pass by reason of the violent putting them forth that gives the form, because the young one being broken by coming forth, is divided into those many pieces like Gourd-seeds. And hence we may conclude that those are trifles that the *Arabians* speak of Gourd-worms, forasmuch as there are none such: What is that I hear, most learned *Ferome*? that thou being gray headed, and taught by long experience, shouldst so applaud thy own imagination, that thou shouldst dare to deny a thing obvious to sense, and plain to our eyes, and to *Gabucinus Benevennius*, and the *Arabians*? Go to, No living creature can produce so many young ones like Gourd-seeds: why not I pray? when as one maid that took physick to kill Worms, as *Gabucinus* affirms, voided 177 round Worms? To say nothing of that *Benevennius* reporteth c. 85. of the incredible multitude of them: and he was a man to be believed. And what thou speakest of the capaciousness of the place, if that be an argument, it is an error to be laughed at.

For the guts will contain not only as many as are in a Gourd, but the Gourd it self prepared. By thy last objection thou dost but mock, but canst not weaken the opinion of *Avicenna* and the *Arabians*: for as much as in bodies dissected, Gourd-worms have been seen wrapt up in a roll, wherefore they took not their Gourd-form from the violent voiding them at the fundament, or from the manner of putting them forth, as thou either inventest maliciously, or ignorantly believest. I conclude therefore with *Gabucinus*, that there are Gourd-worms, and the broad worm called *Tenia*, is not properly a Worm, nor yet a living creature, but something about the entrails like white shavings, as *Hippocrates* saith, that is filled with these Gourd-worms put in fashion of a coat of Mail. *Ascarides* have their name from *αἰσίν*, because they bite and tickle very much, and so exercise the patients that are troubled with them: others derive them from *αἰσέω*, which signifies to move. The Ancients called them Beasts-worms, because they were seldom found in men, but often in Horses, Dogs, Hens, and Oxen. And they were so seldom seen in men, that *Hippocrates*, and *Celsus* that followed him, either knew them not, or thought them not worth the mentioning, and so they said nothing of them; and yet they writ at large of other Worms. They are like the round Worms, but ten times shorter, (for they are seldom above an inch long) and what length soever they be, they are thicker at the end of the longanum, and the sphincter of the anus they are found, causing a vehement itching in those parts. *Galen* writes in *Lib. de Ling. Hippocratis*, that *Gous* an old man called *Ascarides* long Worms; which difficulty *Mercurialis* easily opens, for we should read it, saith he, not *μακρὰς*, great, but *μικρὰς*, small. Moreover, though in consideration of their breadth and thickness they seem long; yet compared with round Worms, they may be called short. These and round Worms are of divers colours, as the matter they are bred of is, or in respect of the heat that concocts them; but Gourd-worms are alwaies the same: whence I should conclude that Gourd-worms breed only from flegm, but the rest from all humours and excrements. *Ascarides* oft-times come forth in great numbers, and before they be voided they prick much.

CHAP. XXXII.

Of the Original of Worms in the guts.

Aristotle lib. 5. *Generat.* and *Hippocrates* before him, 4. *morb.* make the material cause of Worms to be dung. *Oribasius* l. 3. *Aph.* 30. and *Montanus* that followed him being his Master, thought that living creatures might breed in the guts from all kindes of humours: and *Mercurialis* who thought they were deceived, was blinde himself at noon-day. But let us examine his Arguments: It is found, saith he, that they will not breed from blood, because blood never putrefies so much, that living creatures may breed from it; Also he affirms from the judgement of *Alexander Trallianus*, that living creatures cannot breed in the veins. But experience cuts off the nerves of his first argument; and the Authority of *Rhazes*, *Loppius* and *Pliny*, overthrow the second. Also they cannot breed of a melancholy humour, because it is cold and dry; nor of yellow choler, because it is bitter, and such creatures are not fed by bitter things, but destroyed. For which opinion, though he urge *Aristotle*, *Hippocrates*, *Galen*, 4. *sumpl. med.* *Ægineta*, lib. 4. c. 27. yet what is there more slender than the opinion of them? For Butchers know that in the milks of Sheep, which is the fountain of melancholy humour, and in the gall of Oxen, which is the receptacle of bitter choler, innumerable worms are oft-times found. And I see no reason why Worms may not breed from yellow choler, as well as in Wormwood; from melancholy as well as in stones, from blood as well as in sugar. But if they be not bred from them, whence have they matter that they breed of? The Physician of Padua will answer, *It remains therefore that they can breed only of raw flegm*, which either ariseth from too great quantity of the best meats for want of heat, or quantity of bad meats corrupt by depravation: which opinion, though it well agree with *Galen*, *Ægineta*, *Aetius*, *Avenzoar*, *Avicenna*, *Columella*, *Celsus*, *Alexander*, and chiefly with our *Mercurialis*, yet in my judgement *Hippocrates* is in the right, who thought that living creatures are bred in the little world, as well as they are in the great. Therefore as in the earth there are all kinde of humours, heat and spirit, that it may nourish living creatures that breed, so hath man all kinde of moisture that nourisheth things that breed. Moreover, when as these living creatures do represent perfectly Earth-worms, no man in his wits will deny but that they have both the same original. What flegm is there in the earth? yet it breeds round Worms, and Gourd-furnished, and *Ascarides*, and all sorts of Worms, and the best and warmest earth abounds with them, so far is it that they should breed only of raw and corrupt humours. Do we not also daily see that Worms are voided by men that are in health? For I knew a woman of Flanders, that at *Frankfort* on the *Main*, which from her youth till she was forty years old, did daily void some round Worms, without any impairing of her health, and she was never sick of them. I conclude therefore that from every raw humour of the body Worms may breed; and not only from crude or corrupted flegm. The formal cause depends from internal heat, which is weak, gentle, pleasing, and fit to breed living creatures; wherein that plasticke force of *Caleodick* Nature, (to use the word of *Avicenna*) doth make the colours by the degrees

grees of secret heat, and sporting her self doth make that broad form of Gourd-worms, and sometimes of Lizards, Toads, Grass-worms, Caterpillars, Snakes, Eels, as we read in Histories. This doth give them taste, feeling and motion, this gives them that force of attracting, whereby they forcibly draw forth with greediness the juices that slip into the guts. If it were not so, that heat that consumes all things might perhaps dispose the matter that is changed by putrefaction, but it would never give the form and figure of a living creature. For it is not because the guts are round, that round Worms are bred in them, as some men dream; but the external form depends from the internal, and the spirit drawn forth of the bosome of the soul it self, doth frame the shapes without a Carver or Smith. This spirit is the mediate efficient cause: but God himself is the principal cause in this and other things, in whom, as well as we, the Worms are, move and have their being.

The final cause shewes their use, which declares Gods omnipotency, Natures majesty, and the singular providence of both for mans good. For there are collected in us some putrefied excremental superfluous parts, which the more bountiful hand of Nature changeth into Worms, and so cleanseth our bodies; as we account it a good sign of health to be full of lice, after a long disease: also they consume much superfluous moisture in mans body, and unless they grow too many (for then they feed on our nutrimental juice) they are a great help to the guts; so far is it that they should be accounted by physitians amongst diseases, or the beginnings of diseases. Amongst the concomitant causes I reckon the place and the countrey. For though they are more common to children than to those that are of years, to women than men, in a pestilential than a healthful time, in Autumn than in the Spring, to such as use an ill diet rather than to those that keep an exact diet: yet they accompany all ages, sexes, conditions, seasons, diets; for no man is privileged from them, yet some places or climates are free, for according to the nature of them, in some many, in others no Worms will breed: for all kinde of Worms will not breed in each part of the guts, but round Worms only in the small guts, Ascarides in the Longanum, the Gourd-worms only are bred in all. Also, as *Theophrastus* and *Pliny* testifie, there are no small differences amongst Nations and Countreys. (*lib. hist. pl. 9. c. 2. Lib. Nat. hist. 27. cap. 13.*) For broad or Gourd-worms are common amongst the *Egyptians*, *Arabians*, *Syrians*, and *Cilicians*: again they of *Thracia* and *Phrygia* know them not. And though the *Bæotians* and *Athenians* are under the same Confines, they are frequently full of Worms, and these are by a privilege as it were freed from them. He only will admire at this, or think it a Fable, who knowes not that the nature of Countreys vary according to the position of the stars, the nature of the winds, and the condition of the earth. There is a River (saith *Aristotle*, *lib. de nat. anim. c. 28.*) in *Cephalenia* that parts an Island, and on one side of it, there is great abundance of Grasshoppers, but none on the other. In *Prodolesena*, there is a way goeth between, and on one side of it a Cat will breed, but not on the other side. In the Lake *Orchomenius* of *Bæotia*, there are abundance of Moles; but in *Lebadius*, that is hard by, there are none, and brought from other parts they will not dig the earth. In the Island *Ithaca*, Hares cannot live; nor in *Sicily*, flying Ants; nor in the Countrey of *Cyrene*, vocal Frogs; nor in *Ireland*, as we know, any kinde of venomous creature. The reason of all this he can only tell, who hath hanged the earth in the air without a foundation; for it is not my eye that can see so far, nor have I any minde to affect to know things above my understanding.

*I leave that work to those that dare aspire
To know Gods secrets, let me them admire.*

CHAP. XXXIII.

Of the signs and cure of Worms out of Gabucinus.

Let us therefore shew the signs of Worms, beginning from those that are called round Worms; both because these do more frequently vex children, and because they produce more cruel symptoms: of which *Paulus* writes thus: they that are troubled with round Worms, are cruelly torn in their bellies and guts; and they have a tickling cough that is troublesome, and somewhat tedious, some have a hickop, others when they sleep leap up, and rise without cause; sometimes they cry out when they rise, and then they fall asleep again; their Arteries beat unequally, and they are sick of disorderly Feavers, which with coldness of the outward parts come thrice or four times in a day or a night without any reason for them. Children will eat in their sleep, and put forth their tongues, gnash their teeth, wink with their eyes, they will be very silent, and are angry with those that rowse them up, the barks of their cheeks, in a short time, are sometimes red, sometimes wan-coloured. If the Worms run up to the stomach, they cause nauseating, gnawing, and want of appetite; and if the sick are forced to eat, they scarce can swallow it, and if they swallow it down, they vomit it up again, they void many corruptions of meat by their bellies, and they are swollen like a drum, the rest of the body growes unreasonable lean, not by reason of hunger, nor immoderate evacuations. These things happen when these creatures creep and gnaw in the belly. A feaverish heat sends up ill vapours to the brain,

brain, that arise from putrid moisture collected in the stomach. So writes *Paulus*. But *Aetius* out of *Herodotus* writes thus: Those that are troubled with Worms have a most cruel pain of their stomach and bellies, and they have a little frequent tickling cough, and yet they spit up nothing; in their sleep they shiver, and rise preternaturally; some again put out their tongues and shut their eyes, and are silent, and cannot endure to be rowled, and cannot watch for weakness: some have their eyes bloudshed, their pulses unequal, obscure, deficient, and recurrent: some want an appetite, children whilst they sleep, bite their tongues, and move their mouthes as if they sucked, or eat meat. But these things are done for a short time, and by circuits. Moreover some children besides reason, rise with crying, and presently fall down again: some crash their teeth, which it seems happens when the Worms suck, and gnaw their bellies and guts. And now it appears that some are come up into the stomach, and cause loathing, and bitings: oft-times also by themselves they are cast upward, but sometimes with some flegmatick humour. Some Infants neglected lose their motion, and are benumbed, and like those that are in a swoond, they sweat a cold thin humour, and most commonly they are wan-coloured: sometimes the face will be red, especially about the cheeks, but this colour again is changed into more than ordinary paleness. Others again like dotards speak strange words in their sleep, others change their places they ly on, still sleeping, and they are vexed, and turn from place to place: but very few of those do cry, for most of them are void of reason, and are silent. Also they that are vexed with round Worms, loath their meat, and if they eat any thing, they cast it up again, or loath it so much they can hardly swallow it: for they fall into Feavers with vehement cold in the outward parts: some have their bellies swoln like a drum. So saith *Aetius*. But these are the marks he reckons from *Hippocrates* opinion: Worms in the belly are discovered by these marks: If they be sleepey, and the disease will not let them, and their outward parts be cold, and there be gnawing at their hearts, the urine troubled, and the tongue full of moisture; also they that have Worms in their stomach, are full of spittle; and if any little Worm comes forth they spit no more: therefore all those that have Worms in the mouth of their stomach, do commonly cast them up all by vomit, but those that have belly Worms, void them by siege. But they all nauseate, and vomit up what they take in. They are like to those that are pricked, that have contractions all over their bodies, and move suddenly and confusedly, and they have torments and pains of their guts. Vapours carried to the head cause Vertigoes. Moreover the manner of diet that the party used will shew the generation of Worms, and all the rest. These are the signs of round Worms; but all these signs must not be sought for in every one, as *Paulus* saith; but some and the principal of them. I might joyn here many things out of our new writers, unless what they say, and more also were not to be found in *Avicenna*, whence they borrowed it.

Signs of broad
Worms.

Paulus gives us these notes of broad Worms: sometimes they abound in those that have Feavers, and sometimes in those that have none. In Chronical diseases, they breed, gnawing the stomach, and causing a greedy appetite. They eat the meat so fast, that we need more, and if it be not present, they bite shrewdly; the body growes lean and weak, and unequal. But the most certain sign is, that some bodies like Gourd-seeds come forth with our excrements: so saith *Paulus*, and *Aetius* doth not differ from him, but that he saith, that they gnaw the stomach continually, and cause an insatiable appetite, and that the meats eaten soon turn to excrements. They that are affected grow weak of body and sluggish, and are alwaies hungry, for what is living in the guts, when it hath consumed the meat, feeds on the body; but this sign will not fail us, if some things like Gourd-seeds be voided by stool. The signs *Hippocrates* gives are these: He writes after this fashion: There is another kinde of this, that comes forth like the white shavings of the guts; which hath these marks: The party voids seed like Cucumer-seed, and when he is fasting he is vexed, and spits much, his liver being affected, sometimes not; and sometimes when this vehemently affects his liver, it stops his speech, and he spits much, and after that it stops: and sometimes there is great pains in the guts, sometimes the shoulders ake, and then it stops again. Sometimes these are the signs of the broad Worms. He that is affected with this Worm, is almost alwaies in health, but when he growes weak, he can hardly endure it, or be recovered. For this broad Worm takes some part of those things that go down into the stomach, and if care be taken it may be cured, but if not, the Worm will not come forth it self, nor doth it kill a man, but growes old with him, &c. *Ascarides* are alwaies about the bottome of the belly as we said, and there they cause a great itching almost continually, as *Paulus* and *Aetius* have written; and sometimes, as it is reported, they will make one faint. For that is shewed by their name. For they moving alwaies do continually exercise a man and tire him out. They that are troubled with these, feel alwaies a heaviness about their *Precordia* and backs. The signs of these are chiefly taken from the filthy smelling of the excrements. They that have Worms their eyes at first shine, their cheeks are wan, in the night they have cold sweats, their mouth is pale, they start in their sleep, in the day they are more feaverish, their tongues and are dry lips, their breath commonly stinks, their face is pale, they nauseate and vomit often, they loath meat, they crash their teeth, especially in the night, they put forth their tongues (and they seem to eat) they are angry with those that awake them, they speak strange words, sometimes they are in a lethargy, and pick straws, and their heads ake, they cry out in their sleep, as the disease increaseth, their hearts beat exceedingly, their voice is interrupted, their arteries beat weakly, sometimes in the height of their pain, they are extended, and their mouth fomes as in the Epilepsie, their belly is swoln like a Tympany; some-

Ascarides.

Sometimes the pains abate, and again there follow torments, and Colique pains, with a henterie flux of the belly, sometimes they are costive, and the excrements are hard. These are the signs of Worms, now follow the Prognosticks. The Prognosticks are very necessary in all diseases to know *Prognosticks.* what will be the event, and to know the condition of the patient serves much for the cure, as *Hippocrates*, especially in his Prognosticks, hath abundantly shewed; who in the beginning of his book *de prudent. Medico*, hath delivered it: Especially foretelling here before the patient, things present, past, and to come, and what the sick have neglected, he is thought to understand the condition of the patient; and hence it is that men will better dare to trust the Physitian. But because it is difficult to foresee all this, unlesse we use some artificial conjecture (I call that an artificial conjecture, that comes very neer the truth) and who can easily attain this, unlesse he have learned the things that belong to the art, and remember them, and hath with all diligence exercised himself in the practice of it? The things will be thus known. If a man suppose that there is any vital vertue, he must know the disposition of the patient in strength and weaknesse; and when he is perfect in these, he must study further to know all differences of diseases in the greatnesse and manner of them, and then to learn the foreknowledge of the future state. And when he hath learned all these, then he must exercise himself both in comprehending the magnitude of the disease by exact conjecture, and the force of the patient, and how long they may last. Now practise will help him much in this; and before he hath diligently learned all these, it will no whit profit him to see sick people: wherefore they that professe physick, proceeding in this method, shal never undergo any disgrace, neither in curing, nor foretelling of future events, which they report some famous Physitians have fallen into. Hence it may be collected why some Physitians are more fortunate then others, and what a fraud that is, to call a Physitian more fortunate then another; how absurd that is, *Galen* and *Erasistratus* have shewed; saying, that a Physitian must be exercised in all these things in his minde, and he must be diligent, and prudent by nature, that comparing all together, he may get a grosse summe of prædictions, that shal be useful for himself and for his patient. For such is the force of prædiction, that alwayes for the most part, what the Physitian foresees wil come to passe, where the Physitian is perfect, and the sick doth not neglect his orders. But because, as it is evident, a Physitian by prædictions may get immortality almost, so chiefly from those things that do belong to this affect, he shal win glory to himself, by telling the sick their condition, who for the most part are children, or ignorant what their disease is. Since therefore Prognosticks are chiefly necessary for this disease, I wil not fail to set down what the Ancients have written of this disease. *Paulus* a great follower of *Galen*, writes of these things to this purpose. Worms bred at the beginning of Feavers, have their subsistence from the corruption in the body, about the state of the disease, from the malignity of the disease, about the declining, they grow better. For *Hippocrates* saith, it is good that round Worms come forth, when the disease comes to a Crisis. But *Aetius* writes thus from the opinion of *Herodotus* a Physician. Worms breed in Feavers, and without, that differ one from the other in multitude, magnitude, colour, and time. For Worms bred at the beginning of a disease, have their being from the corruption that is in the body, about the vigour of it, from the malignity of the disease, about the declination, from the change to better, and they are soon also voided forth, Nature driving them to the outward parts, as she doth the rest of the excrements. But the greater ones are worse then the lesser, many than few, red than white, living than dead. Our new writers adde to these; if round Worms are cast forth alive at the beginning of acute diseases, they shew pestilent diseases, but if dead ones be cast forth when the diseases decline, they are an ill sign also, however they appear both these times, it is bad. It may be because that Feaver that follows Worms is alwayes naught, because it consumes the matter for Worms. It happens also, that the Worms are set on fire and grow hot by reason of a Feaver, and so are wreathed together, and moved, that they so much the more affect and trouble those that have these Worms. They adde further, that it is proved by experience, that Worms are in the belly, if in the morning you sprinkle cold water on the mouth of childrens stomachs, for they will all gather to one place. Worms sprinkled with bloud, so voided is ill, for they shew great hurt of the guts, to cast Worms up by vomit is naught, for it shews the stomach to be stuffed with filthy humours. Frequent cold breathing of children, their bodies yet swelling, is deadly, for it shews they will die the next day. If the eyes of the sick are somewhat held together, and cannot be closed by the fingers of those that stand by, death is at hand. Some there are, it may be following the opinion of *Alfagavus*, that say that those who are troubled with *Ascavides*, are but short-lived. But there is a great question to be resolved, and that being done, I shal put an end to those things that concern the Prognosticks taken from Worms. *Aetius* a little before said, that live Worms were worse than dead ones. But *Rhasis* and *Avicenna* that follows him, think the contrary, absolutely preferring the dead ones before the living. In which question, to passe over other men, I shal say what I think, that the strongest affection is taken from those that are dead, because they must needs be driven forth, and cannot come forth of their own accord; yet I follow *Hippocrates*, who in a certain place useth some words that are difficult, wherein he would have us to consider diligently what symptoms Worms breed, for if they come forth without any symptoms they foreshew a good sign. But he makes it clearer elsewhere thus. It is necessary that round Worms should come forth with the excrements, when the disease comes to the Crisis. So that by this we may understand, that if they be voided any other time, it is done rather symptomatically than by force of nature, and therefore they shew corruption or malignity, as *Paulus* and *Aetius* distinguished.

The cure.

But because we can never rightly undertake the methodical way of curing Worms, unlesse the belly in which they are be well disposed, nor can this be, unlesse the whole body be so, and this is excellent well performed by good diet; wherefore that in the first place must be well ordered, for without that all helps are in vain, for the preserving and repairing our health. For this is to famous, and almost the best part of Physick, that that admirable *Corn, Celsus, Galen, Pliny*, and almost all the old Physicians, could never give it commendations enough. *Asclepias* formerly esteemed it so much, that he almost took away the method of curing by Physick, and wholly turned all curing upon diet. Now this consists not only in the quantity and quality of meats and drinks, but also in all those things that befall us whether we will or no, as in sleeping and waking, motion and rest, as also in the repletion and emptiness of the whole body and of every part, and in the affects of the minde, but chiefly in the Air that is about us, which not only sticks fast to us outwardly, but continually enters into the inmost parts of our body by the drawing in of our breath. As for what concerns those things that we take, because they are such things that every man knows, I shall say nothing of them. For there is no man ignorant, that divers meats, and of ill and naughty juice, and disorderly taken, will breed crudities, and that gluttony and drunkenness do our bodies great hurt, yet many kinde of meats, that are hurtfull in other diseases, are profitable in these. Wherefore we shall as it were besides our purpose, and by the way touch upon these, first adding what *Paulus* writes. Let the meats of those that have Worms be of good juice, that may easily be dispersed, and passe to the parts, and neither foster the cause, nor weaken our forces.

Wherefore we grant them wine mingled with water, and let them eat often both for their need, and that the Worms may not gnaw them. If there be a scowring of the belly, it is a sign that many are bred, the meat being not dispersed; and in that case Pears or Quinces must be mingled with our broths; Wheaten bread is a wonderfull help, having Anniseed mingled with it, or Fennel or Salt; or bread that is between Bran and Wheat, called *συνκρίσις*, because there are joynd together in it the Bran, the Hulls, and the Flour. Men call also this bread *ἀντιπνεύον*, because all the Wheat, without taking anything from it, is made into bread. Also the wheat it self that the meal is taken from must be the best, for some of these have much Bran, which is the courser wheat, but the finer wheat is the best. But wine that is mingled with water, because it gently bindes, is held to be very convenient. Mountain birds are fit for their meat, and young wood Pigeons, green Groundsel, and Goats-beard, the broth of black Chiches, and Coleworts, and Capers, and pickled Olives eaten; and if there be no Feaver, let them eat their other meats with Mustard, also sower and oyle things are commended. Also Panick (which *Diocles* called the honey of Corn) is most durable, if so be it may be reckoned amongst Corn. Also Spelt in the decoction of Myxie, and a Ptisane with a great quantity of Oyl of unripe Olives, besides these, Lupines, Cresses, Betes, Mints, Smallage Radish, and sawce eaten are good. Give children before all meat, a decoction of Sebestens with Mints. Milk is very hurtful, as also Fish, and Pulse, and whatsoever is of a cold grosse substance, and hard to be digested. Bread unleavened breeds Worms, for it is good for no man, and so are all moyst meats, that easily turn to corruption within.

For all kinde of Worms it is most convenient to use abstinence from such things as breed them: And when they are bred, it is good to eat often, a little at a time; and that is best, when they leave off gnawing. But those that have *Ascarides* must eat meats of good juice, and of easie digestion, that the force of them may not reach so farre as the right gur. For the matter fit to breed them is so consumed. Thus far for meats and drinks to be taken. But the other five kinds that are not so manifest, shall be handled by us also with all brevity. And we shall begin from sleep. It must not be too little nor too much, and in the night rather than in the day, at least two hours after meat. Moreover, to be long idle is naught, let exercise precede meats, and rest after meats. Nor is every motion to be taken for exercise, but that which makes us breath more; unlesse it be when we have taken Physick against Worms; for then we must ride or run, to shake our bodies; for they are more easily cast forth by hard exercise or labour: but children will hardly observe these rules. Care also must be had, that the belly may twice be unburdened, and if that will not do of it self, we must use a Suppository or Clyster to provoke it, made of such ingredients that are fit for this purpose. All affects of the minde whatever they be, must be set aside, as quarrelling, anger, sorrow, great cares, and thoughts, sadness, fears, envy, and all such kinde of perturbations, and chiefly after meat. For these change and turn the body from its natural state. Let men beware of cold North windes, and let them not go barefoot. The air because it always is about us, cannot be chosen at our pleasure: for it is sometimes a defence for us, and sometimes the cause that makes Worms, or fosters them: It wil be a defence if it be very hot, and dry, pure, clear, and calm; and it wil chiefly foster the disease, when it is very cold, or moyst, or moved by the North or South winde, or by too great heat, dissolves our forces, and then by art it must be thus prepared: To burn in our Chambers wood of Juniper tree or of Citrons, or Peach-trees, and such wood as is against Worms. Also to perfume the place with tops of Worm-wood, Peach-tree leaves, Citron pills, roots of Pomegranate-trees, also with Fern, and Ivy. But that is the best that is made with Myrrhe, and Aloes. Another remedy that succours the fainting spirits, by reason of Worms. Amber greece two penny-weight, Musk one penny weight, Gum Arabick, four penny-weight, Roses, Sanders, Cloves, Privet, Frankincense, of each one penny-weight, *Gallia Molchata* so called, six penny-weight, Lignum Aloes burnt to a cole twenty penny-weight, the quenched coles of Vine-branches, what is sufficient, make them up with Rose Vinegar.

Worms

Worms are oft-times exasperated with vehement remedies, that they bring children to Convulsions, swoonings, and death; wherefore they are not rashly to be given, and at all adventures. But because that remedies by reason of their different qualities are thought to be good to kill and bring forth Worms, therefore in general, such remedies as heat, drie, cut, and are sharp, bitter, salt, or sower, and attenuating, are to be used. For either they kill the Worms by their sharpnesse, or bring them forth by their bitternesse, or they allure them to come forth, or else they are known to be good to bring them forth by the loosenesse that followes. They are brought forth 'tis likely at once, by such supping means as make the passages slippery, or by some effectual quality, that is namelesse. There are some cool remedies that effectually drive forth Worms, and some by a hidden quality, as shavings of Harts-horn. But those things are best that kill the Worms, for so long as they are alive they are an occasion of mischief. And they are hardly driven forth when they are killed, wherefore they must be drawn forth by Clysters; otherwise they send a filthy virulent vapour to the brain, and likewise inflame the body, and hurt the appetite and concoction. But because Worms happen most to children, who are hard to be dealt withall, I thought it not fit to conceal that wonderful way that *Paulus* mentions, whereby Aloes, and certain broths are given to them by way of supping. A certain Cooks Instrument or spoon that is called *Σαλπιστος*, is put into their mouths as they lie upon their backs, and by a little Clyster with a strong Pipe, Aloes is forced down their throats, holding their mouths wide open as far as it is possible. *Polux* makes mention of this, but doth not tell us what it is. But whatsoever *Zomerysis* is, we understand two things by it, that it is made descending, that thereby the bitternesse of the Aloes is not tasted. But by that other Instrument that *Paulus* calls *Clysteridion*, it is forced in by violence. But force and nature concurring, the motion is most swift, the heavy matter running downwards, and is violently driven in by it. *Paulus* also describes another Instrument, whereby moist things are injected into the fundament, it hath many holes quite through it, and these from the matrix are called *Metrenchite*: But *Aetius* speaks clearer thus. To which purpose you must provide a horn Pipe that is full of holes through it, large at the bottome, and convenient for the largenesse of the place, which being thrust in beyond the Sphincter of the Anus, we fill with juice of Cedar, so that the liquor may flie forth every way. But forasmuch as these Instruments are unknown to us, when remedies are given either to kill or drive forth Worms, stop the childes nostrils, and then wash its mouth with some sweet or sharp thing, and when he hath drank down the medicament to kill the Worms, his stomach must be fomented with Acacia or Hypocistis with wine. Those things that kill Worms are best given in sweet milk or honey or Ozymel, or syrup called *Acetosus*. Some first satisfie the children first with three dayes drinking of them, and then they give the physick afterwards. Also they give Clysters of the same sweet things, that they may entice those Creatures to the lower parts. If the belly scowre, it is of necessity that the Worms must be killed at last, for the motion of the belly will cast them forth. But when the appetite is hurt, and the belly loose, the Worms must be killed with bitter things only, that are somewhat astringent, as with Wormwood amongst hot things, or Southernwood and Worm-seed: Or amongst cold things, with Pomegranate pills, Acacia, juice of Plantain, Purslane and such like.

Of hot things the seed of Cresses drives forth all belly-worms, bruised and drank in wine or Vinegar, yet more effectually if wilde Mints be added, yet it troubles the belly. The meal of Lupins licked with honey or drank in Posca, and outwardly applied to the navel with Bulls gall, drives them forth. The same also being infused and eaten with their bitternesse, wil do the like. Also their decoction can do as much, being drank with Rue and Pepper. Sea Worm-wood boyled by it self, or with Rice, adding Honey to it, kills Worms in the guts, and it wil do it better with Worm-wood. Southernwood doth the same by its bitternesse; Cardamomum kills them. Also the decoction of Hyssop drank, or the herb it self licked up with Honey. So Calaminth kills Ascarides, and other VVorms, if it be drank with salt and honey, or if it be eaten raw or boyled, or the juice of it given in a Clyster, or drank. Also the decoction of Thyme, or Rue boyled and drank with Oyl forceth them out. Also wine of Cedar, and the liquor of Cedar it self. Unripe oyl of Olives, if it be drank plentifully, for it is pressed out unripe for children. Juice of Oenanthe hath the same operation, as oyl of unripe Olives. But the best thing against VVorms are sweet Apples called *St. Johns Apples*, for they loosen the belly, and drive out the VVorms; which by what faculty they can do it, (being they are sweet, and of a honey taste, from whence they borrow their name, and since so they should rather feed VVorms) is perhaps, because by this meat the belly is made loose, and the VVorms follow; and the VVorms that otherwise would stay within, by the force of the excrements, as Fishes in a torrent are carried away, when in Summer great rains fall, and so are they carried downward. For *Dioscorides lib. 1. cap. de Melimela*, saith that those Apples make the belly soluble: Also the seed of Coleworts, especially that which growes in Egypt, drank, drives forth VVorms, namely, because the temper of it is drier, and more wilde. The same is done by Oyl of *Palma Christi* drank. Myrrhe also by its bitternesse both kills and drives them forth. The decoction of Elecampane, Squills taken with Vinegar and Honey, but the Squills must be first roasted, or otherwise it is held to be most pernicious to the entrails. Also they use to give against all VVorms the decoction of the root of Capers in honey and vinegar. And *Dioscorides lib. 4. cap. 1. writes*, that the herb called small Turn-soil, drank with the seed, adding thereto Nitre, Hyssop, Cresses, and water, wil force out all sorts of VVorms, long and flat. But *Paulus*, unless there be an error in the Press, reckons Cardamomum for Cresses, *lib. 7. c. 1. Rocket-seed* in wine, wil drive out all living Creatures.

A general cure
of Worms.

Simple hot
medicaments
against Worms
out of *Diosco-
rides, Celsus,
Pliny, Scribo-
nias, Largus,
Galen, Oribasi-
us, Paulus,
Aetius.*

tures bred in the body. Also seven or five Earth-worms drank with sweet wine, wil drive out all kinde of VVorms: Bitter Almonds and the Oyl is good. Agarick with Honey, but it purgeth with trouble; for it is hurtful to the stomach, by making it slippery and loose. Storax swallowed with Rosin of Turpentine: Aloes drank in cold water or milk, the same drank in a decoction mingled with Honey, brings them forth without trouble. The seed of Tithymal or the juice of it about five drops mingled with Figs or Dates. The leaves of Agnus Castus, Polypode, Chamepythe, Centaury the lesse, bruised and drank with Vinegar. Also one peny weight of the root of the same drank in three Cyathi of wine, doth help. Horehound with Wormwood and Lupins, boyled in water and Honey, of each alike, and with wine applyed twice or thrice, kills all Worms in the belly: Costus by its bitternesse, with water kills all Worms. But *Dioscorides lib. 1.* writes that it drives out only broad VVorms, with water and honey; which place *Marcellus* interpreting, blots out that word [and honey] as put in amisse, for this reason, because it is contrary, and seems not to agree with the cure for VVorms. For saith he, they are raised and nourished by sweet things, and belly VVorms are not driven forth by them, unlesse perhaps Honey must be therefore added, that they being deceived by the sweetnesse of it, they may take in the bitter Costus in greater quantity, as we use to do in curing children, when we give them bitter or strong potions, we cover them with some sweet savour, or pleasant smell. In which businesse he seems to seek a knot in a Bull-rush (as we read in the Comedy) and yet he confesseth it to be otherwise. For whether the word Honey be read in *Dioscorides* or not (for I am not yet certain of it, nor hath *Ruellius* set it down) it is sufficient that bitter Medicaments, (such as Costus are, and such like) were given alwayes almost by *Dioscorides*, *Pliny*, *Galen*, and others, for to cure Worms, with sweet things, and chiefly with Honey, or Mede, or Oxymel, for the same reason that *Marcellus* mentioneth, *lib. 4. cap. 57.* which *Paulus* added in these words. Because some men oft times refuse bitter potions, as having an ill taste, of these thing herein comprehended, they shal not give any that are manifestly bitter, but mingled with some sweet thing, as he said a little before, that all these medicaments must be mingled with Honey or Oxymel, and so given to drink: Or as *Lucretius* saith, that the improvident Age of young people may be deceived, or else may be able to take it, being enticed by such a taste. For children most commonly are subject to Worms. Therefore nothing hinders but that the word Honey should be added, as *Marcellus* himself testifies, if we read him in some old Copies. Likewise a Cantharis bruised, and drank with a Briony root, drives forth Worms, as *Galen* writes, *lib. de compos. Theriaces.* Of cold things, the juice of Mouse-ear, with Ale, of each one Cyathus. Groundsel eaten, the juice of Plantain, especially when the belly is loose, given one spoonful or a small measure to drink, and the herb it self bruised, laid to the navel. Coriander seeds with the juice of Pomegranates and Oyl destroy the Worms in the guts, or drank with sweet wine. Hot things, as boyled Beets, taken with raw Garlick, by the Nitrous quality it hath, brings them forth, but the juice is hurtfull. A Pomegranate bruised, and boyled in three Heminae of wine to one Hemina, drives forth Worms, takes away the pain, and the juice of the root one dram and half weight, will kill them. Sumach of Syria will do the same, and the seed of Orache. Our new writers adde, that it is manifest by experience, that the sharpest Vinegar drank when we go to bed will drive out the Worms. But amongst those things that prevail much is *Corallina*, so called, which being powred or mingled with Honey or Oxymel, or drank with Honey-wine, doth wonderfully kill Worms, or drive them out half dead. This took its name from the likenesse of Corall, since both of them grow in the water, and for sixty years almost it hath been used to good purpose to drive forth Worms; if I be not mistaken, this is that which *Dioscorides lib. 4.* and *Galen* call *βρύον θαλάσσιον*, that is, Sea-mosse, and if that they did not attribute to it the same force we do to drive forth Worms, as we see in *Corallina*, as they call it, I shal not therefore think that it is any thing else, besides *Dioscorides* and *Galen* *βρύον*: For the Antients did not know the vertues of all Simples, for the true nature of each cannot be found out by any other way than by its effects in physick. A mighty work and secret from God, than which there can be no greater found out. Also many things are found now adayes that were not found out in our forefathers dayes; and no wonder, since these experiments are made by Countrey-men, and such as are ignorant of learning, who commonly live only where they grow, besides the negligence of seeking, when there are so many Physicians at hand every where. Also many things are found out that want names: To this we may adde the uncertain way of finding out; for in things that are found, some were found by chance, saith *Pliny, lib. 25. cap. 2.* others were revealed by God. But the foulest cause of this rarity is, that they who know things will not discover them, as if they should quite lose what they acquaint others with. They are as envious indeed as those are who either suppress the monuments of Antiquity, or else utterly demolish them; which they for that end, that what is written by the Ancients may be attributed to themselves, or if they have delivered any famous matter, they that write other mens opinions will let that be lost. But if there be any that will contend, and say it cannot be that they should be ignorant that Sea-mosse was good to drive forth Worms, to those I answer, that the Ancients did not commit to writing all the natures of Simples that they knew. For we know many of the precepts of *Pythagoras* and *Socrates*; which yet cannot be known out of their Books, because they wrote none. And *Plato* though he left so many Books in writing, yet besides those he wrote, his followers take many things for his that he never put in writing. Nor hath that *βρύον* growing in every place, as they report, the same faculty, but the Apothecaries in some certain places of Italy fish for it, and they sell it under the name of *Corallina*. But let this suffice.

This

Cold Simples
against
Worms.

This is rather to be enquired into, why, being that Corallina tastes salt, *Dioscorides*, *Pliny*, *Galen*, and others report it to have a cooling faculty, when as it is known that all salt things are hot, and earthly, not unlike to bitter things that are hot? Whether it be, because the sea-water is salt, yet hath in it a great deal of potable water (as *Aristotle* hath sufficiently demonstrated it) and therefore by that it is the less hot? Or else because it contains in it much earth, and so it is drier and thicker? But such things as grow in the sea, must needs be of the same faculty with it. Because therefore that Sea-mosse growes in the sea, *Dioscorides* and others attribute to it a thickning quality, but as it contains in it much water fit to drink; and as it is of an earthly quality, by that it cools. Lastly all that are troubled with Worms, are helped with the smell of the hair of Ichneumon (they call it an Indian rat) as *Paulus* writes.

The juyce of Houfleeke drank in Wine, will drive out of the belly round Worms: Worm-wood Wine drank doth the same. The herb of great Turnfoil drank with its seed, adding there-
unto Nitre, Hysop, Cresses, and water, will cast them forth. The root of female Fern, Simples severally that bring forth Worms round, and Ascarides, and broad Worms.
3 drams drank in Wine, will force out the round and broad Worms of the belly, as *Ruellius* and *Marcellus*, who interpreted *Dioscorides*, do both assert. But *Galen* saith that it kills not round Worms, but Ascarides and broad Worms, for so he writes, *lib. Therapeut. method. cap. 14.* But Wormwood can destroy round Worms, broad Worms require more strong helps, as Fern is, and so doth that Worm the Greeks call *ACCEIS*. *Theophrastus* was of this opinion, who writes that female Fern mingled with Honey is good against broad Worms of the belly, if it be mingled with Honey; and for Ascarides, in sweet Wine. For so he sets it down: *Female Fern is good against broad Worms and small ones*: against broad ones mingled with Honey, but against small ones in sweet Wine. It is certain that Ascarides both are, and are called small Worms. Moreover, *Galen lib. de simpl. Medic. facult. 8.* ascribes the same vertue to the female Fern, that the male hath. Now *Pliny* writes that the female will kill only broad Worms and not round. *Plin. lib. hist. 27. c. 9.* And again, that both, (that is, both male and female) will drive forth Worms of the belly, broad Worms with Honey, the rest with sweet Wine drank for three daies, and he excludes neither round Worms nor Ascarides. But *Galen* in one place excludes both round Worms and Ascarides; and in another place he writes that it will destroy Ascarides with broad Worms. What now shall we say, where Authors are of so many different opinions? shall we say that female Fern will kill all Worms in the belly? For *Galen* ascribes the same vertue to it he doth to the male, but that especially it kills broad Worms, and in the next place Ascarides, which being at the bottome of the belly, require a stronger remedy, as Fern is, that the force of it may come so far. But since it can drive forth broad Worms and Ascarides, that are more seldome, and the one is in the guts, the other farthest from the stomach, it will far sooner destroy round Worms that lie in the upper guts. *Galen* therefore will not fight with himself in this, for it sufficeth if it will kill broad VVorms, and if it can destroy them, it can more easily destroy Ascarides, and easiest of all round VVorms. But *Pliny*, as who best of all knew that, saith it will drive out the rest also, (that is, both round VVorms and Ascarides). But that he saith so is manifest out of *Paulus*, *lib. c. 58.* who in his method of curing round and broad VVorms, mentions Fern: which yet all men agree is most properly used to drive forth broad VVorms. *Avicenn. 16. Tertii tract. 5. c. 4.* shewes this most clearly in these words: *The medicins that kill Ascarides are stronger than those that kill long Worms; and those things that kill long Worms and Ascarides will also kill broad Worms.* Gith or Nigella not only eaten but laid in a plaister to the belly, or anointed on the navil with water, brings them forth. In which place we must note *Marcellus*, who saith it will drive forth broad VVorms and not round: but *Ruellius* interprets this by the contrary. If *Marcellus* have done right, I leave other men to judge, this is certain that *Galen* is of *Ruellius* minde, who hath written only that it will kill VVorms; and as I said before, it is taken generally for round VVorms. *Paulus* and *Aetius*, agree with *Ruellius*, who in their curative method for round VVorms, often speak of Gith, but never for broad VVorms. Wormwood called Santonicum, of it self or boyled with Rice, adding Honey to it, will kill Worms. The seeds of Nettles bruised, or of Coleworts or Cummin, with water, or Mints with it, or Hysop with Honey and water or Cresses-seed bruised with Vinegar, kills them. *Celsus l. 4. c. 17.* *Oribasius lib. ad Ennapium filium*, hath written that Calamint, Cardamom, Lupins, and the powder of them in drink, or with Honey by way of Elixuary, or given in Posca to drink, are sufficient to kill round Worms. Also the leaves and buds of the Peach-tree bruised, and laid upon the belly can do as much; also Mints in drink and Sorrel. Purslain boyl'd, the juyce of Succory, or the decoction of Sebestens, or the Sebestens themselves boyl'd and eaten are very good. Also the ashes of burnt Harts-horn is thought very effectual for this use, especially of that which growes on the right side of the Stags head. It is burnt thus: Break the Harts-horn, and put it into a new earthen Crucible, and lute it well, put it into the furnace and let it burn till it be white. *Scribonius Largus, c. 141.* gives it thus: Harts-horn, saith he, raspt with a workmans rasp, with water of Sebestens boyled, give 4 or 5 spoonfuls of it, which were soaked the day before in 3 cyathi, then bruise and give it, adding the water to it. An Oxe shank burnt, and drank with Milk, drives out round Worms, saith *Galen*. *Costus* with water drives forth broad Worms of the belly. *Galen de com. Ther. ad Pis.* Cardamom, Garlick eaten. The leaves of female Fern taken with Honey in a Lohock. But the root of the male 3 drams with Honey-water drank, will drive them
Cccccc

them forth, but better, if it be given with so many oboli of Scammony, or black Hellebore. Also the root of white Chamæleon, drank a sawcer full, for which use it is drank with sharp Wine and the decoction of Origanum. Walnuts eaten largely, the pill of the Mulberry-root boyled in water and drank; besides that it loosneth the belly, it will force out broad Worms; also the decoction of Pomgranate roots drives them out and kils them. The decoction of Pomgranate pills can do as much. The root of wilde Bugloss a sawcer full, with Hyfop and Cardamom drank, doth the like. *Ruellius* the Interpreter of *Dioscorides*, seemsto have followed *Paulus*, who say that with Hyfop and Cardamom: but *Marcellus* saith, with Hyfop and Cresses drank, it will drive forth broad Worms, what was said before of Turnsoil. *Marcellus* seems here to follow *Galen lib. 6. de simp. fac.* who writes that a sawcer full of it is good drank with Hyfop and Cresses. But the juyce of Cedar kils Ascarides, and so doth Calamint, the juyce of it being drank or given in a Clyster. The decoction of Wormwood, mingled with oyl and given Clyster-wise, and the decoction of the lesser Centory given with Salt-peter and Honey, hath the same force, or the decoction of the wilde Gourd, of wilde Saffron, if the right intestine were first emptied with sharp pickle. The root of female Fern drank for three daies in 3 drams of Wine, drives forth Ascarides. Also old Hogs-grease put into the Anus, is excellent good.

The methodi-
cal Cure of
round Worms,
chiefly out of
Paulus and
Aetius.

Both *Paulus* and *Aetius* testifie that Feavers commonly accompany round Worms, and we found it true by daily experience. When therefore there is a Feaver, sometimes we must take care to cure the Feaver and the Worms, and sometimes taking little care for the Feaver, we must strive to drive the Worms out of the belly. For many that have neglected them have died torn and eaten up by them, and some say they have seen them come forth at the groins. But we must first kill them all, and then drive them forth; they are killed chiefly with bitter things. When therefore the cure is common both to the Feaver and the Worms, the more simple remedies are convenient, and where the disease is uncertain we must use things that are more milde. For the Feaver is exasperated with strong remedies if we should be mistaken; but when we are certain how the matter is, we must wait for the times of the disease. For about the first daies, and the rather if they should appear then, we must use stronger remedies. But those that appear when the disease declines, are more easily cured, and the better if there be no inflammations or tensions of the bowels. As *Hippocrates* saith well, *lib. Aph. 1. cap. 24.* In acute disease but seldome, and that at the beginning we must use purging Medicaments; and this must be done with premeditation, for these swell most, and are agitated as 'tis often seen, and therefore about the beginning of those diseases, we may use sharper means with profit, but there must be much caution, and premeditation used therein. First examining whether the patient can endure such remedies, and be prepared rightly for them, and whether we may expect a right Crisis by giving them. For there is no small danger in an acute disease, as the sickness of Worms is, to use sharp remedies, because all such means are potentially hot. Therefore they that suffer inflammations and extensions, must have Cataplasms of Linseed, with the like quantity of meal of Lupins mingled, or else moist fomentations of oyl of Camomil, Wine, tops of Wormwood, and Aloes laid to their Præcordia; but where moderate Feavers molest, give children before all meats, the decoction of Myxato-drink, or give them the Sebestens themselves to eat with Mints. For these things wonderfully help those are troubled with Worms, either because, saith *Serapion*, they stick by reason of their sweetness to them, or else these are so glutinous, that they cannot be parted from them, and so must come forth with them. For Myxa are very clammy, that in *Syria* the best birdlime is made of them called Damask-birdlime: wherefore because by their clamminess they bring forth Worms, if they trouble the stomach, they must be given by the mouth; but if they be in the belly and guts, by clyster: but to such as are come to ripe years, stronger remedies may be given, as the decoction of Wormwood or Southernwood, or the force of the root of the sower Pomgranat boyled to thirds, also three scruples of washt Aloes is given, which is the most commendable remedy for those that are strong: also we use unwasht Aloes, and both, if they be feaverish, and but three moneths old. Earth-worms with boyled sweet Wine may be given confidently; but if they will not drink sweet wine, give them with water and honey, or as you think fit, fearing nothing, not despising the meanness of it, give 5 or 7. But if it be not a naked suspicion, but a certain knowledge that there be Worms, and that a proper cure belongs to them, then you must lay on Cataplasms with Lupins meal boyled in sweet Wine, to which also sometime a root of Briony must be added. In the mean time anoint the navil well with Buls gall, or Gith bruised with womans Milk, or with Wormwood, or Southernwood, or Briony mixed with fat old Figs: anoint all the *Spina dorsi* with Deer-suet, and cover the upper belly with a Cerate made of Wormwood and Cypress oyl. Moreover a Suppositor must be put up where the belly is bound, especially for children, and if it profit not, then give a Clyster, the vigour of the disease abating, made of the decoction of Wormwood, or Southernwood, or Centaury, with Honey and Nitre. And we shall endeavour to draw them out by supplings, that make the passages slippery, such are oyl of unripe Olives, supping up by little and little two spoonfuls of it, for as it is bitter it kils Worms, and as it is glib it drawes them forth with the dung. But we must alwaies increase the potions of oyl for they are very commodious. The Worms come forth, some yet alive, but they are giddy, and as we may say half killed, and many come out dead with the excrements. Moreover Worms will breed when there is a scowring of the belly, we must cure

cure them by stopping the flux, and by bettering the concoction with meats and Cataplasms. For the more the flux growes, the more the Worms breed; and when the flux ceaseth, the Worms do the like: wherefore we must diligently endeavour that the belly may be stopt and strengthened; we must therefore add to such Cataplasms as serve to stop other fluxes, such things as we said to be good against Worms, and that cause no fluxes, such as are Wormwood, Southernwood, Santonicum; also Pomgranate pils, Acacia, Hypocistis, Balauftia, and the like, with raw Barley-meal. Also Cerats laid on must be made of these. Also suppings must be used amongst all which the juyce of Plantain is best; and the dry Plantain, for it is good both against the flux and the Worms. Farthermore the VVine of the Pomgranate pressed forth with shell and all helps exceedingly. But for nauseating that ariseth from VVorms, and gnawing of the stomach, a grain of Salt held in the mouth, and melted and swallowed down, profits wonderfully, for it should seem the tartness of it, makes them presently fall down. But if a hickop arise from the same causes, pils are good, that have the juice of Ridder-spin, Wormwood, Santonicum, Water-mints, Scordium, of each four penny weight, boyl them to the thickness of Honey, then add fifty penny weight of powdered Aloes, and make pils of all, and swallow a penny weight, for this will take away the hickop, and kill the Worms. But if from the Feaver or filthy vapours arising from Worms, or the fumes of Medicaments (as most of those are that are given against Worms) rise to the head, so that there be great pain thereof, then anoint the forehead of the head, the forehead and temples with oyl of Roses, or the juice of Acacia, or of Hypocistis mingled with it, for it is most effectual. Others lay on leaven with a little Saffron and Vinegar, on these parts being anointed: for this cures all intemperate sleep, and other perverse affects. But amongst those men call Syrups, syrup of Wormwood, Calamint or Horehound are commended: or make one thus: Take juyce of Mints, Elecampane root, Wormwood, Rue, purified, for it is taken the sediment being cast away, of each of them half a hemina in weight; of the juyce of Succory and Grasse, of each of them seven cyathi in weight, infuse in these torrefied Harts-horn, Sumach, Purslain seed, and flowers of wilde Pomgranates, strain the decoction and make up all with Sugar, or the purest Honey of Athens. Another: Take Southernwood, Calamint eight penny weight, Horse mints, Elecampane-root fresh, six penny weight, boyl them in water to a third part: this decoction is given with syrup of Wormwood, or Oxymel of Squils. Also Wormwood-wine is much commended for these uses, but it is made divers waies, for some let down Celtick nard 40 drams bound in a linnen clout, into a measure of new Wine, and after 40 daies they strain it. Others cast a pound of Wormwood into 20 sextarii of sweet Wine, and a sixth part of Pitch, Rosin, and after ten daies they strain it, and lay it up for use. A syrup against Worms, with a Feaver and the symptoms: Take sixteen penny weight of Grasse-roots, Purslain-seed, fowr Dock, of each eight penny weight, ten sebestens, boyl all to thirds, to these add the juyce of Pomgranates, and Oranges, or fowr Wine, of each one and half cyathus in weight, as much of juyce of garden Succory, the best Sugar what may suffice, boyl them to a syrup: you may give Infants half an ounce, and young children one ounce without danger. A Julep that shall help those are affected with Worms: Take Dittany of Crete, Gentian Zedoary, Arabian Costus, one penny weight, seeds of Coleworts, Dill, Wormwood, Purslain, of each alike as much; water of Mints, Wormwood, Grasse, of each half a hemina weight, boyl them to thirds and strain them, to these add of the best Sugar twenty penny weight. But in a Feaver you may give the decoction in water, or Grasse-roots, Wheat, Barley, of each fifteen penny weight, to a large quantity to drink. Another most effectual and very sweet: Distilled water of Sorrel, Roses, Grasse, garden Endive, Bugloss, juyce of Pomgranates, of each one hemina weight, seeds of Purslain, Orach, Sumach, Citrons, of each three penny weight; Coriander-seed, Myrtle-berries, wilde Smallage, of each two penny weight, seeds of fowr Dock, Coleworts, Cummin, of each the same weight; red Roses, Tormentil, Barberies, of each two penny weight, so much weight of Balauftia, five penny weight of the ashes of burnt Harts-horn, white Dittany of Crete eight penny weight; the shels of Mulberry-roots barked, Fern-roots, of each two penny weight, ten Sebestens, one penny weight of red Coral, white Sugar what may suffice, make a Julep. But the most present remedy of all is that the Apothecaries call commonly *Diaturpethum*, but chiefly with Rhubarb, three drams of it being swallowed down; which being it is proved by long experience, so it hath also great reason for it, that it should be preferred before all other remedies. For children enticed by the sweetness of the Antidote, will take it down willingly, and the Rhubarb kills the Worms, and the parts are strengthened by it. The Turpeth drives them from their nests, and the rest of the ingredients do not only make it pleasant but harmless, so that it is most sweet, harmless and strong all at once: it is made thus: Take white Sanders and red, Violets, Ginger, of each two penny weight; Anniseed, Cinnamon, Saffron, Mallick of Chius, each one penny weight; Myrthita, which the Apothecaries call Turpeth, eight penny weight; Rhubarb, ten penny weight, Scammony as it is usually prepared, four penny weight, the purest Sugar 190 penny weight, make up all with that and make Troches (as the Greeks call them from the form) each three drams weight, where you have need of them, give one for this disease. Another Antidote: Take Rhubarb, Saffron, Scammony, Wormseed, Dittany of Crete, each two penny weight, the best Sugar eighty penny weight, make them up with Grasse-water, and make Troches; one penny weight of this is given to Infants without danger, being dissolved in Grasse-water. The powder I use is good, and a powder thus prepared: Take Rhubarb, Agarick, Germaner,

Compound in-
ternal Remedy
dies to kill
and force out
Worms.

Compound external Medicaments against Worms.

of each two penny weight, Sea-moss four penny weight, Wormseed and Purslain-seed of each two penny weight, unwashed Aloes six penny weight, give a scruple of this or two oboli in Wine to children safely. Sometimes all these are bruised and sifted and made into pills with the juyce of Wormwood or Mints, and three of them are swallowed down. *Another for the same by another Author:* Take Harts-horn burnt, the less Centory, Mints, Penniroyal, Water-mints, Wormwood, Santonicum, Germander, Lupins, of each four penny weight, bring all to very fine powder and give it with Milk, Vinegar, or Oxymel, or any way. *Another of the new Writers that is approved:* Take Rhubarb, Coriander-seed, Basil-seed, Plantain, Pomgranate pills, Carway-seeds, Sumach, of each two penny weight, Carduus Benedictus seed, shavings of Harts-horn, and of Ivory, of each eight penny weight, the bark of the roots of Mulberries pill'd, Colewort-seeds, Citron Apple-seeds, bark of Willows, of each six penny weight, Purslain-seed, Dittany of Crete, four penny weight of each, Pearls, red Coral, of each two penny weight, dry them and bring them to fine powder: one or two drams of this with Wine in winter, and where there is no Feaver, or with Oxycrate in summer or to those that are in a Feaver is safely given. An Antidote that kills Worms, diminisheth a Feaver, and helps against pains of the heart: Take Wormseed, Sea-moss, seed of wilde Smallage, Harts-horn burnt white, of each alike, infuse them all three daies in Vinegar, wherein let these things first boyl, Purslain-seed, Sorrel-seed, Sumach, Coriander, Colewort-seed, and a little Myrrhe; then dry them, and add to them Orange-seeds two parts, Citron-seeds one part, make them up with Sugar dissolved in the Wine of Pomgranates, and make morsels, to which you may add some little Cinamon and Musk. But because it hath been seen oft-times that Medicaments outwardly applied have done much good against Worms, it is but reasonable that I should set down the manner of them: For by these we not only defend our bodies, but also we kill the Worms and drive them out dead: wherefore this may suffice that hath: Lupin-meal, less Centory, leaves of Peach-tree and Horehound, bruse them with Posca and lay them to the belly. *Another tried by our newer Physitians:* Take the less Centory boyled in the oyl of Peach-kernels, anoint the Navil with this, and it will drive forth the Worms. *Another:* Toft Barly-bread, and infuse it in Vinegar, then press it out, and infuse it again in the juyce of Peach-leaves, lay it on warm to the belly with a linnen clout. Others mingle Lupine meal, Southernwood and Buls gall. *Again:* Take Lupine-meal, Centory the less, of each four penny weight, Aloes, Buls gall, of each 4 oboli, make them up with juice of Wormwood, and laid to children very young. *Another:* Take Wormwood, Gith, ashes of Harts-horn, of each a like quantity, mingle them with Honey and anoint them. *Another good for the stomach, that kills Worms, and is good against the belly flux:* Take Wormwood, Mints, Roses, Santonicum, Lupin-meal, of each eight penny weight, tosted bread, infused in the sharpest vinegar four penny weight, Buls gall sixteen penny weight, Mountain-nard, Water-flag, (Gallia called Moschata) Cloves, sweet Cane, Nutmeg, Galanga, Carway-seed, of each twelve penny weight; Hippocystis, Acacia, Sumach, of each four penny weight, oyl of Myrrhe, juyce of Mints, and Wax what sufficeth, make a plaister. If there be no Feaver, the navil and thighs are to be anointed with Honey, in a hot affect with Milk, and then a little Aloes is strewed on, for it wonderfully kills Worms, also the nostrils are profitably anointed with Theriac and Vinegar. *A Cerate against Worms out of Paulus:* Take Aloes, VVormwood, Lupin-meal, Seriphium, Gith, of each six scruples, VVax an ounce and half, oyl of Camomel what may suffice, make them up being bruised dry with Buls gall. *Another out of Aetius:* Lupin-meal, VVormwood in powder, Barley in fine powder, of each seven penny weight; Buls gall, eight penny weight; rasping of Harts-horn, four penny weight; VVax, twenty six penny weight; weak oyl, twelve penny weight. *Another approved:* Take Aloes half an ounce, Saffron two oboli, juyce of Pomcitrons as many drams, mingle them with sweet white VVine, and apply them to the heart. *Another approved:* Take Buls gall, 30 penny weight, choise Frankincense 128 penny weight, Strong-water 2 hemina, distil all these chymically and in a glass vessel covered with VVax, keep what comes forth, and use it when occasion is. *Another very excellent, that kills and casts forth the Worms:* Take VVormwood, Gentian, Centory the less, bark of the roots of Mulberries, Bay-berries with the kernels taken forth, bark of the roots of the Pomgranate-tree, Ash-root pills, of each 16 penny weight; Marjoram 14 penny weight; Southernwood Aloes, Myrrhe, Agarick, of each 12 penny weight, Dittany of Crete, Germander, Savin, of each 8 penny weight; Poly-mountain, Grass-roots, each 10 penny weight; Stachas, Chamædrys, Chamæpity, Pomcitron-seed, each 6 penny weight; ashes of Harts-horn, Santonicum, 4 penny weight, Coloquintida-seed, 2 penny weight, Buls gall 24 penny weight, the sharpest Vinegar 1 hemina and 3 cyathi, a gallon of bitter oyl of unripe Olives, and 6 hemina; let the dry things be beaten into most fine powder, and mingle them ten daies together, on the eleventh day let them boyl in a double vessel until the Vinegar be consumed; when these are cold, add one hemina of oyl of Bayes, bitter Almonds, and Peach-kernels, of each beaten 24 penny weight; all these, as the former, must be put into a glass vessel, and be distilled. *Another most excellent and sure:* Take Peach-kernels, Garlick, Earth-worms washed in Vinegar, of each 24 penny weight; Gentian, Dittany of Crete, Grass-roots, and Piony, pills of Mulberry roots pill'd, of each 52 penny weight, Saffron, sweet Cane, Cloves, Aloes, Calbanes, Coloquintida, Ginger, Nutmegs, Cassia, long Pepper, Frankincense, fruit of Balsome, red Coral, of each 8 penny weight; the best Theriack 12 penny weight, Mints, Wormwood, Centory the Less, Peach-tree leaves, headed Deeks, Penniroyal, Calamints, Plantain, Rue, black Hore-

Horehound, Bay-leaves, Sage, Marjoram, Betony, Scordium, Orange-pils, and bark of Mulberry roots, of each 16 penny weight; seeds of wilde Smallage, Purslain, Radish, Coleworts, Santonickum, Plantain, headed Leeks, sea Moss, garden Smallage, (that is, Parsly) each 12 penny weight; the sharpest Vinegar, juyce of Quinces, of each one hemina; oyl of Mastick, Spike, liquid Bitumen, (they call it *Petroleum*) oyl of Bayes, of each 16 penny weight; the oldest Oyl, or oyl omphacine, 8 hemina; beat the dry things to powder, and mingle them, and in a glased vessel set them under Horse-dung for a moneth, then boyl them in a double vessel to thirds, strain them when they are cold, and straining them out forcibly, keep in a glass, what comes forth for your use. But employ it thus: first anoint the temples, then the nostrils, next that the spondyls of the neck, four of them next the throat, then anoint the pulses of the arms, next to that the stomach, I mean by the stomach the mouth of the ventricle, taking the word stomach improperly, for properly it signifies the throat; wherein I must not passe over the error of our new Physicians, who in affects of the mouth of the stomach, lay their remedies upon the back over against it, which is both contrary to *Galen*, and also to reason, 1. & 10. de morb. cur. libro. yet I believe *Thomas Linæer* did not rightly interpret that place, if I be not mistaken, who was indeed otherwise a very learned man, and most skilful in the interpretation of Authors; but it may be that Greek Book was faulty, or for some other reason. Also it seems agreeing to reason, that for affects of the mouth of the stomach, the remedies should be applied before, immediately under that round gristle, which they call the shield or sword-fashion gristle, for at this place the mouth of the stomach best receives the force of Cataplasms and Cerats, forasmuch as there are no bones to keep it off, but the properly called stomach, that is, the throat is fenced with most strong bones, as under a fence; for it hath the breast bones before, and the back behinde. But this is spoken by the by. Now between the wetting of one place, and of another, we must stay so long as a man might walk about 40 paces; and when these places are wet, we must use more distance of time, when we anoint the reins and the navil. And these three remedies are so certain, that unless a childe be ready to die, he will recover from the point of death only by anointing these parts. That which is called the broad Worm abounds in those that have no Feaver, and breeds in long during diseases. The method to cure these is the same as for round Worms. For bitter and sharp potions are most in use, and to eat Garlick or Calamint, Dittany or Penniroyal; we must eat Garlick largely for three daies, and old soft Cheese. Next let a man eat of *Macedonian* Fern dried and powdred and sifted, 8 penny weight, with as much Honey as he please; after four hours give the patient Aloes, and Scammony, of each one half dram, in Honey-water 4 cyathi, when he begins to rise to stool, set hot water under; Also give water to drink in which Lupins, or the bark of Mulberry-tree is boyled, or to which there is added a sawcer full of Pepper, or bruised Hyssop and a little Scammony: or else after the eating of Garlick we speak of, let him vomit, and the next day let him gather as many Pomgranate roots as he can hold in his hand, and bruise them and boyl them in 3 sextarii of water, to a third part remaining, let him put a little Nitre to this and drink it fasting; three hours then past, let him take two Potions either of water or salt pickle added to it; Then pour forth the hot water into a basin, as I said: also give Earth-worms to drink, for they are exceeding good. But the juyce of mouse-ear is proper for them, drank two cyathi with one cyathus of Ale: for it quickly drives forth the broad Worms. But this remedy following must first be drank; nor is it thought unfit for those that have Worms, especially if they have no Feaver. Out of *Paulus*. It consists of red Nitre, Pepper, Cardamoms, of each equall parts, mingle all these and give of them a spoonfull in Wine or hot Water, for it quickly brings them out.

Another, which is an Electuary of *Paulus*. Take Pepper, Bay-berries cleansed, *Aethiopian* Cumin, Mastick of *Chios*, of each alike, Honey what may serve turn, give one spoonfull in the morning, and let them sleep upon it; but if you would do this more effectually, adde Nitre as much as of each. Another of the same. Take Fern a sawcer-full, Nitre two penny weight, give it with a Spoonfull of water, after evacuation, but it is better to adde a little Scammony to it. Another of the same, and of *Aetius*. Take of the bark of the root of a lowre Pomgranate, scraped from the upper part, Pepper, of each four penny weight, Cardamoms six penny weight, Horehound two penny weight, the best Honey what is sufficient, give one spoonfull of it after eating Garlick or Leeks. But that the disease may be wholly driven away, give some Theriac, for *Galen* highly commends it for this use. Another out of *Oribasius*, that he alwayes used by the experience of his masters, and had a long time proved it for good. It contains Scammony one Scruple, Euforbium as much and half as much, the powder of burnt feathers one scruple, Nitre in weight one Siliqua, give this to drink in honey'd or sweet wine. But it will fall out better if he first eat Garlick or some sharp thing. Also here is a Plaister of another Author, that is good against all Worms, especially broad ones. Take Lupines, Bay-berries cleansed, Bulls gall, lay these on the navel and binde it on with a swatheband for one day and night, or else for two or three daies. Against broad Worms from another Authour. Take Southern-wood, scraped Harts-horn, *Coccus gnidius*, and *Sesamum*, of each one penny weight, Cardamoms three oboli, give this to drink with Oxymel. Another for the same use. Take Gum Arabick, one penny weight, Fern three penny weight, Cardamoms one penny weight, Nitre three penny weight, give it in Hydromel or Ale. Also against the same, is the Antidore called *Diphæreon*. Take Fern eight penny weight, Scammony, Gith, Cardamoms, salt Nitre, of each two penny weight.

The Cure of broad Worms, chiefly out of *Celsus*, *Oribasius*, *Scribonius*, *Paulus*, and *Aetius*.

Victorinus, is a piece of Monney of 3 oboli, or half a dram.

weight, give it in Oxymel or Ale, but adde Polypode four peny weight. It is reported, that Ascarides will trouble children, and such as are come to their full growth. But children are continually provoked to excretion, and after egestion they are the better most commonly, but those that are come to their full growth, observing the trouble of such things that are the cause of them, will thrust their fingers into their fundaments, and pull them forth, and further they will foment and abate these biting pains, with peble-stones that lie in the Sun on the shores, or else with stones put into the fire. But some for fear will admit of none of these helps; yet this disease ought not to be neglected, for Worms will not easily yeeld to remedies, nor are they easily driven forth, but by strong means. Wherefore children must be purged with Suppositars made of Honey and a little salt, or Nitre, or sharp pickle, or with the decoction of Wormwood mingled with Oyl. Also there ought to be a stronger purging, and when they have voided their excrements, the Longanum, which is the place affected, must be anoynted with it. As for Simples, they are Acacia, Hypocistis, the juice of Sumach, with liquid Allome or Nitre, but the Compounds are the Troches of *Andron*, and those that are called *Sphragides polydiae*, and with fat Wooll and such like; for the flesh is made stronger by Astringents, and loseth its readinesse to breed living Creatures, and thrusts forth the Ascarides. *Andron* his Troches are made thus. Take flowers of Garden Pomegranates ten peny weight, Galls eight peny weight, Myrrhe four peny weight, long Birthwort, and as much Vitriol, Saffron, scissil Allum, dregs of the Oyl of Saffron, *Myfi*, Frankincense, of each two peny weight, they are powdered and mingled with astringent wine, or with Vinegar. But *Sphragis polydiae* is thus. Take scissil Allum three peny weight, Frankincense four peny weight, Myrrhe as much, or eight peny weight, Vitriol two peny weight, flowers of tame Pomegranates twelve peny weight, Bulls gall six peny weight, Aloes eight peny weight, make them up with sharp wine: But that which is made with fat Wooll is thus made. Take fat Wooll forty peny weight, lead powder, shales of Bitumen, of each ten peny weight, round scissil Allum, Pomegranate shells, Galls, *Myfi*, Vitriol, Frankincense, of each five peny weight, Myrrhe two peny weight, lees of Oyl eight Heminae. Those that are of riper years must be purged with sharper and hotter remedies, as with Diapicra, and with Oyl mixt with wine, in great quantity, and other things infused, as salt pickle, the decoction of Centaury, with Nitre and Honey, or Coloquintida, Chamæleon, Anchusa, Lupins; then Oyl of Cedar must be given in Clyster, and after that rest; often repeating the same method of cure, also take salt flesh, scraping away the fat, and cut it long and round, and thrust that into the Anus, and binde it in, to hold it there so long as may be, and then lose it, and inject again the foresaid things, and let us often repeat the same remedies.

CHAP. XXXIV.

Of Worms that breed without the Bowels, and chiefly of Maggots.

THE living Worms that are bred in the head, the brain, the liver, milt, bladder, reins, muscles, proceed from the same causes Worms in the guts doe, and are destroyed by the same remedies. But those Worms *Hippocrates* calls *Eulas*, the English call Maggots or Gentils, they are Worms without feet, not unlike to *Ascarides*, but that they are shorter a little, and thicker considering their length: There is no man almost that hath not seen these in Carrion and corrupt flesh, and sometimes in limbs that are dead by the negligence of Chirurgions, when as they apply a remedy that putrefies together with the wound or ulcer. *Hippocrates* calls *Eulas* Worms bred in dead bodies. *Suidas* calls them *ill beasts*, flesh-eaters. *Lucretius* calls them cruel Vermin, and *Plutarch*, Worms from corruption and putrefaction of the excrements boyling forth. *Homer* in his *Iliads*, 19 and 24. saith they are Worms arising from putrid matter, that are far smaller in the ears than in other ulcers: And *Cælius* writes, that they are called *Eula*, which *Latin* writers call improperly Ear-moths, since they agree with them neither in form nor figure nor in any mark whatsoever. Lastly, those small Worms that breed from Flies egges in flesh, in Summer, (the English call them *Flie-blows*, and the Germans *Maden*) as *Camerarius* observed, are reckoned amongst *Eula* or Maggots. But those *Eula* or Maggots that breed in Hogs flesh or Bacon, have a proper name given them by *Festus* and *Perottus*, who call them *Tarni*, Maggots. Have either a tayl, or they are without a tayl: Hens feed on both kindes of them, and so it is likely other Birds doe. To make a woman conceive *Hippocrates* prescribes three or four parts of those that have tayls, bruised with Origanum and Oyl of Roses, to be laid to the mouth of the matrix. In his first *de morb. mulier.* and in another place of the same book, he bids apply with Wooll the heads of these Worms mingled with the Secondine of a woman, and Allum of Egypt, and goose grease.

It is reported that *Democrates* of Athens, when he was a youth, and was sick of the Falling sicknesse, went to *Delphos*, and enquired of *Apollo*, what he would advise him to take against this troublesome disease, and that *Apollo* answered;

Take the greatest Maggot you can finde
In a wilde Goats head, and fast binde
That in a sheep-skin, &c.

Democrates

Democrates having heard the answer of *Apollo*, he repaired to *Theognostus Democratus*, who was then ninety yeers old, and he wondring at the providence of God, expounded this Oracle that was so doubtfull: Saith he, by nature the head of a wilde Goat is full of abundance of Worms, neer to the basis of the brain, and when he neeleth, many Worms fly forth at his nostrils; you must therefore lay a garment under the Goat, that these Worms may not touch the ground, but that you may catch them before, and so taking one or two of them, put it into a black Sheep-skin and binde it to your tender neck, and this saith he, is a natural remedy against this disease. *These things are good against Maggots bred in ulcers and wounds in man or beast.* First cleanse the parts affected, with the gall of Frogs, the juice of Celandine, Sea water, or brackish water, with the decoction of Honey, Worm-wood, Horehound, Peach-leaves, Groundsel, juice of Betes, and Wine; then to kill the Worms, strew on Pepper, Salt Peter, or Allum in powder, Hellebore, Henbane, round Birthwort, Vitriol, or wash the fore-places with the juice of river Calamint, or the decoction of Centaury, or with the juice of Leeks or Horehound. *Johannes Agricola* prescribes Bugloss, but *Pliny* preferres *Aristolochia* with Honey; and *Paracelsus* commends juice of Celandine. *Montanus* commends Nitre before all other things. *Vegetius* bids to wash the sores early in the morning with cold water, and to drench them thoroughly, for he affirms, that the Worms by this means will be so contracted with cold that they will soon fall down. *Aetius* commends Poly, and Worm-wood mingled with Pitch, and he commends the anoynting of the parts with fasting spittle. *Hildegardis* strews on the pith of Smallage, the shell of a Tortoise, Bees that are dead in the Hive, the leaves and the bark of the Plum-tree, powdered and sprinkled on the ulcers. *Bayrus* applies quick lime tempered with the sharpest Vinegar. The places where the Worms are being sprinkled with the juice of *Hippia*, will be presently cured, saith *Tardius*; but what this *Hippia* is, no man hath determined: Some think it is wilde Tansey, some say 'tis *Potentilla*; *Gesnerus* understands it to be Chickweed, which by its sharp and Nitrous faculty (as the Betes have) kills all the Worms.

CHAP. XXXV.

Of Nits.

NIts in the *Greek* are called *Dorcus* and *Cumidas*, the *Italians* call them *Lendine*, the *Spaniards* The Name
Liende, the *Germans* *Niss*, the *English* *Nits*, the *Muscovites* call them *Guida*. These are lit- and Descrip-
tle white living creatures, most like to *Syrones*, if they had but feet, but they are twice almost as tion.
small; and their body is somewhat long, out of which *Aristotle* saith that nothing else can breed.
Crackt between the nails they make a noyse and die, they are not found only in the hair and eye-
browes of men, but they abound also in the hair of Oxen and Cattel that are lean, and wanting
feet, yet they will stick so fast sometimes, that you may as easily pull off the hair by the roots as
pluck them off. *Trotula* not improperly calls them *τρυχόβρωτος*, hair-eaters, for as Snails live on
the juice of herbs, so these live on the moisture of the hairs, and feed thereon. The Philosopher Their Origin-
affirms, that they proceed from the copulation of Lice, and therefore are called their eggs. They
are like to the flowers of *Jesemine* that grows with us. For as *Jesemine* brings flowers without seed,
so Lice bring forth eggs without young ones in them. They die either for want of nourishment, or Their End.
by using a Comb with close teeth, or by the use of such Medicaments as the old and new Phy-
sicians prescribe abundantly. *Pliny* minglith Allum with Vinegar, or Vinegar with gall of a Calf,
and also saith, they are killed with Goats milk. Also he commends Nitre mingled with *Terra Sa-*
mia and smeared on, and the powder of Harts-horn drank in wine. *Abenzoar* prescribes, to anoynt
the hair with the lesser Centaury, and Alkitrum. Brimstone in Vinegar takes away Nits, as also
Oyl mingled with Lie. *Marcellus* doth very much commend Hogs dung mingled with wine and
juice of Roses; also to anoynt with Honey and Sal Armeniack, but chiefly Oyl of Radishes with
a strong lie. *Hildegardis* provides a lie made of Date-stones, which being mingled with Oyl of
Radish roots, will kill the Nits. *Ardonus* mingles some sublimite of Quick-silver with spirit of wine:
And he saith also, that if the head be first wet with a Hens egge, and then with the juice of Sow-
bread, or Sea-water, that the Nits will never breed again. *Gilbert* an English man highly commends
the gall of any Creature, as also all bitter things, cleansers, and Aromaticall Drugs, with the juice
of Marigolds.

CHAP. XXXVI.

Of Aurelia, and a Wood-worm called Teredo, without feet.

That which the *Latins* call *Aurelia*, the *Greeks* call *χρυσάλλης*, the name is borrowed from the gol- The Name
den colour which appears in most of them. It hath no mouth, nor yet any apparent parts, and Descrip-
nor doth it void any excrements, nor yet eat, or move, unlesse it be moved by some body, or hurt. tion.
That which *Pliny* writes, that a *Chrysallis* hath a hard body, I think that is meant in respect of a
Catter.

Catterpillar. But that which he adds that it will move if a Spider touch it, though I know this to be true by experience, yet I doubt he borrowed those words from the Philosopher, and interpreted them amisse. For the sense seems to be thus. *They move, if they be touched, and they are covered with poe like to Cobwebs.* Aristotle speaks nothing here of a Spider passing over them, as Pliny seems to translate it. Aristotle shuts the *Aurelia* not only out of the number of Insects, but also of living Creatures, and determines them to be as it were the Caterpillars eggs. But what agreement is here with an egge? That is laid by another living Creature, and is void both of actual life and motion. The *Aurelia* is laid by none, but is changed from one to another, for it changeth its former shape into another shape, and retains both life and motion, not in possibility of being, but actually. But that doth not take away the life of it, because it neither eats, nor increaseth, for Dormice sleep all the Winter and eat nothing. The life of it doth resemble that sleep which is partly waking, wherein men are not properly awake, nor yet asleep; but are alive, and move a little. But I conjecture that the Philosopher wrote this, that he might confirm that Axiome of his to credulous posterity, that all Insects either lay eggs or little Worms. His words are these. *Insects first breed Worms, but that which is called Chrysalis, is an Egge, and afterwards from this is bred a living Creature, that at the third changing hath the end of its generation.* Yet it is manifest enough by what I said before, that an *Aurelia* is no Egge, and it ought not to be called a generation, but a transmutation of a Caterpillar into this, and of this into a Butterflie. I say this for that purpose, that such as adore Aristotle for a God, may remember that he was but a man, and that he was subject to humane errors. There are two kinds of *Aurelias* that I have seen, some are downy, and others smooth, both are of divers colours, and sometimes they are Gold coloured, which are the true Chrysalides, and others that are but bastard ones, are without any colour of Gold. They have their Original from the death of the Caterpillars, which as they do waste by degrees in certain dayes, so by degrees their covering grows continually more hard, and changeth into an *Aurelia*. These again the next Spring or Autumn, by degrees losing their life, a Butterflie comes forth of them that is bred by the like metamorphosis. What use they serve for, for the good of man kinde, I am wholly ignorant of. I know well enough how much they perplexed Aristotles wit by their wonderfull transmutation; and they set forth to us the boundlesse power of Almighty God.

The Kindes.

Their Originall.

Their End.

Their Use.

George Agricola only propounds to us the *Teredo* without feet, which from the brassen colour of it, he call *Kupter-worm*: It creeps like a Serpent, saith he, because it wants wings and feet. It is as thick as a small Goose quill, and it is as long as a Scolopendra: It is round, and breeds under rotten wood, and sometimes found hard by the Scolopendra, or long Ear-wig. You may easily finde the figure of it placed amongst the Scolopendræ.

CHAP. XXXVII.

Of Water Insects without feet, and first of the Shrimp or Squilla.

WE said before that all water Insects were with feet or without feet. Some of those that have feet, swim with six feet, as the Lobster, the Shrimp, the lake Scorpion, the Evec, and the Sea-lowse; others with four feet, some with more. We shall treat of them severally. The *Squilla* an Insect differs but little from the fish *Squilla*, but that it hath the sail-yards much shorter, and a more red colour, or rather a more earthly colour. Some of these are covered with a thin shell, and some again are smooth and naked. Those with shells live chiefly in small Brooks, and stick to the roots of Reeds or water-flags: They are of a yellowish colour, and sometimes of a white or Ash-colour. They go only with six feet, the rest that are



joynted to them, serve in stead of fins. The naked ones are either soft or hard. The soft ones are represented well enough by this figure, only suppose their heads to be of a bright Bay colour, and their body died with a dark Ash-colour. All those that are covered with a hard crust are made with joynts, but some have round joynts, others other fashions. The form of the round joynted is exactly represented here, if you suppose him to be easily dyed with a lighter red. And such is the colour of the first and second



second that are not round joynted. The third kinde is black upon the back, and with a brown belly; but they are all with a forked mouth, and that will hold fast what is applyed to it. The fourth kinde moves it self with the three former feet, and useth the rest that hang by instead of Oares. The neck of it, and the sailyards, and the nippers are of a watry red colour, the body is brownish or more Ash-coloured. The fifth hath a very black head, and the body like to a Pomegranate shell. The sixth seems to be cruel, and in the same form you see it, of an Ash-colour. All of them have hard eyes, and black, covered over with a membrane shining like unto glasse, which move continually almost, like to the ears of four-footed beasts. They leap quickly one

upon the other as the Fishes Squillæ doe in coupling, and when they grow bold and have liberty, they fill the Females with young. The time when they are ready for this is signified by a gentle biting: The Female takes hold with her mouth, and what she layes hold on she kills, and gives part of it to her companion; for they couple at the mouth, as Crabs and Lobsters doe. But what use they serve for in physick, I cannot finde either in writers or from Empiricks, who either knew not these Squillæ, or thought them not worthy to say any thing of them. Yet this is certain, that in *April* and *May* there is no better bait to catch Fish with.

C H A P. XXXVIII.

Of the Locust, Scorpion, Notonectum, the Grasshopper, the Wasp, the forked Claw, the Newt, the little Heart, and the Lowse, all Water-Insects.

THE Insect-Locust, is like the Lobster, for that cannot be called either flesh or fish: you see the figure of it: it is of a pale green colour: I have seen three kindes of Lake Scorpions, and I have them by me: the first is somewhat black, the other two are like to white





land: we call some Insects of the water *Neton ſia*, which do not swim upon their bellies as the rest do, but upon their backs, from whence it is probable that men learned the art of swimming upon their backs also. Some of these have eyes, shoulders, and bodies all black, some are green, some are fiery coloured, and some pitch coloured. For you shall seldom see two of them of the same colour; nature hath so variously sported her self in adorning them. Water-Grasshoppers hold the form described, but their eyes are extreme black, and their bodies are ash-coloured. The Wasp hath a brownish body all over, except the black eyes. The Forked Claw hath almost the same colour, but it is more full, it seems to want eyes, but it hath them hid within, whereby it both sees and perceives the object. The Lizard is of divers colours, and delights in catching Fish, it is common about the *British* shores, where it lyeth in wait to catch Fish. The *Corculus* hath the just fashion of a heart, the feet and head being taken away; it hath very little black eyes, and six legs of the same colour, & each with two claws. The Sea-Lowse is an Insect that is an enemy to all kinde of Whales, which by biting and tickling it puts into such a rage, that they are forced to run upon the sand, and hasten to dry land: I know nothing concerning the use of these creatures; but I seriously exhort posterity to search out the use of them.

CHAP. XXXIX.

Of the Flea or *Asellus*, and the *Scolopendra* found in the Sea.

THE Flea, or Sea-*Asellus* is like to a soft *Squilla*, but it hath but four feet (as I may say by *Gesners* leave) and by often and long leaps it frees it self from having many feet. It is called *Asellus* from its leaping, *Aristotle* calls it a Flea; from its bunch-back it is called a Sow: it is of a wan colour with blackness; the length of those that are in rivers is the breadth of ones finger, and their breadth is not above half a finger broad. But the Sea-fleas are larger, which when the tyde flowes are seen also oft-times in fresh waters: It shewes a wonderful deal of agility when men strive to catch it, or do but look upon it.



are bred, and do live.

The Sea *Scolopendra*, sometimes is of a grey colour, and sometimes you shall see others that are more red. These are longer and leaner, that is shorter and thicker. I saw both kindes in the year 1578. in coves of Oysters. For they are not found in the deep sea, as *Gesner* supposeth, but in the muddy standing waters, where the Oysters are fatted, there they lye hid; *Numenius* warned Fisher-men concerning these, when he said;

See therefore that you let not ingender,
The stupid *Julii* or deadly *Scolopender*.

They are as *Aristotle* writes lesse than the land *Scolopendras*, but not differing in their form. *Nonus* the Physitian makes of these a remedy to hinder hair from growing, or a depilatory, and highly commends it in his 34. Chapter. Take Frankincense, Vitriol, of each two ounces, sea *Scolopenders* three ounces, grinde them all well, and mingle them with the powder of Quicklime, then pull out the hairs first, and anoynt the places with that.

CHAP. XL.

Of Water Insects without feet, and first of *Oripes*.

NO Philosopher that understands as he should, will deny but that snow is water turned to froth, by long subliming in the air. In this Worms are bred which the Greeks call *vermes*. *Aristotle* writ something concerning these, which History I will briefly touch. In snow there are bred hairy Worms, very sluggish, and that move slowly, wherefore I reckon them amongst Worms without feet, so soon as they are taken out of the snow they die, as the Worms bred in the fire doe, being taken from thence: with snow that is old and begins to look red, they become red also, but those that are found in new snow are white. It is, saith he, a certain thing that snow can no more corrupt than fire can. And indeed they cannot corrupt, yet in both of them are living Creatures bred, and they are nourished in both. I cannot in any wise consent to *Eustathius* the Scholiast upon *Homer*, who affirms, that snow growes red from *Minium*, because those places are of a Cinnabrous quality, whence he conceives, that from the vapours rising from Cinnaber, the snow becomes red: I will not deny but that it is so in some places. But whether the Interpreter be pleased or not, we must needs grant that in some places the snow grows red, where no Cinnaber is. *Strabo* makes mention of such places in these words. In *Charzena* and the Countrey of *Cambicum*, and in places neer to the mountains of *Caucasus*, some little beasts are bred in the deep snow, which *Apollonides* calls *vermes*, and *Theophrastus* *vermes*, that is, Mountain little hairy Worms, like unto the greater *Teredines*. I think their generation as admirable, as of the fire Worms; yet living Creatures are more easily bred in snow, than in fire, because in snow there is much air, earth and spirit, all which the fire consumes abundantly. And if the heat of the Sun happen to be with these, I shall use *Sca-ligers* words, they make dung that smells the sweetest of all ordure. Also they are bred in abundance in *Carinthia*, as *Joach. Vadianus* reports. But *Strabo* in his Comment upon *Pempon. Mel.* addes a thing that is admirable, saying that these Worms are full of excellent water, which

Travellers

Travailleurs take, by breaking the bladder or coat it is in, and they drink this pressing it forth gently. For it is very whollome and seasonable when the fountains are troubled, as it falls out often in great snowes.

CHAP. XLI.

Of Horsleeches.

A Blood-sucker or Horsleech, in Latin *Hirudo*, in Greek *βδέλλα*, in Hebrew *Halukah*, in French *Sangfue*, in Italian *Sansuga*, in Spanish *Sanguisuela*, in High-Dutch *Ein agel so das blut saugt*, in English a *Horsleech*. These are water Worms that thirst exceedingly after the blood of living Creatures, and they will fill themselves with it sometimes till they burst and die. Some of them are without any passage through their belly, some are open behinde; we give you the pictures of them here. *Europe* hath scarce any open behinde, but in *America* and

India they are common. Those that are not open behinde, are obvious to every man, and when they are filled with blood, their skin seems checquer'd with fibres. Some of them are of divers colours, some green, black, brown, yet not venomous, only the bright bay and Chesnut colours, that are like to pills of trees. They breed chiefly in standing pools, where Cattel are wont to be watred, for from their feet earth and foulness are washed, and fall to the bottom, to say nothing of the sediment of their dung, out of which, that want not vital heat, living Creatures are bred. Once bred, they most greedily thirst after blood, and therefore they lie in wait in the very entrance of the pools, that they may light upon Horses, Oxen, Elephants, &c. so soon as they come to drink for thirst of cold water. *Pliny* writes, that they are so troublesome to the Elephant, that the beast is by their tickling and sticking in his snout, almost mad; which doth manifestly shew the wonderful power of Insects. For what is there greater then an Elephant? and what is there more contemptible than a Horsleech? Yet the greatnesse and wit of the Elephant must give way and yeeld to this Worm. They feed most on blood of beasts, and watry bloody matter; yet when they want sustenance, they fill themselves with the filth that riseth from the water. *Pliny* saith they vanish in the Spring, *l. 9. c. 51.* but we see that season to be most fit for the breeding of them. And indeed I can see no reason, that when they have overcome the Winters cold, they should not be able to stand out the Springs mildenes. And this we all know, that Horsleeches will die in the Winter, unlesse they be carefully preserved in warm water, and fed with blood very plentifully. If any man swallow a Horsleech, some perswade us to drink pickle, others snow-water: But *Asclepiades* bids us first to wash the mouth, and to put a soft Sponge wet in cold water into the mouth, that the Horsleech sticking to the Sponge may be drawn forth. After this he prescribes the juice of Duck-weed, and to cover the neck with cooling plaisters. But *Apollonius*, whose surname was *Mus*, gave the sharpest Vinegar with pickle to drink; but those that gave snow, did first warm it, and used it being dissolved, and they did use meat and drink at fit times to make the belly soluble, that they might drive forth the Horsleech, for they report that so they will oft-times come forth with the excrements. *Gal. l. 2. de Antidoto.* In the dayes of *Pliny*, wicked men did privily give Horsleeches to their enemies to do them mischief; but Rue with Vinegar, or only Butrer, (as against all venoms that did exulcerate) were a present remedy, *lib. 20. c. 13. and lib. 28. c. 10.* Their



Their use in physick is manifold. For some (I use *Galens* words, *lib. de different. sanguinis detrahendi modis*, Tract. 10.) take Horleeches and put them up, and they use them diversly: For when they are made tame they are easily put upon the skin; but those that are taken must be kept one day, and must be fed with a little blood; and so it will be that whatsoever venome they have in them, they will soon cast forth. But when we have need to use them, that part to which you will apply your Leeches must be first rubbed with Nitre, and must be anoynted, and scratched with your fingers, that by this means they may fasten the more greedily; but you must cast them into warm water that is contained in a large and a clean vessel, then you must lay hold of them with a Sponge, you must cleanse them with your hand from all filth and dirt, and so they will be fit to be applyed. And when you have set them on, lest that part they stick to should grow cold, you must powr on warm Oyl: But if they be to be applyed to your hands or feet, you must thrust them into the warm water that the Leeches are cast into. And if they will not hold fast, you must cut off their tails with a pair of Cizzers; for when the blood so runs forth they will not leave off sucking until you sprinkle salt or ashes upon their mouth: When they are fallen off, that venomous quality they use to leave behinde must be drawn forth with a Cupping glasse; and if that may not be done, you must use a Sponge to foment the place. And if yet any bloody drops run forth, apply meal and Cummin, and then binde on some Wooll wet with a little Oyl. But if yet the blood will not stop, lay on a linnen cloth wet in Vinegar, or burnt glasse, or a Sponge first put into liquid pitch, and afterwards burnt. And this also you must observe, that Leeches draw that blood that is next the flesh, and not that which is contained in the Centre of the body. Men use them commonly in stead of Cupping glasses. Mark also that you must take them off when they have drawn half the blood. And you must beware that the blood run not forth so long, untill it be sufficient: For the part it self will grow cold, both by reason of the Leeches that are naturally cold, and because of the air that compasseth us about. So far *Galens*. But *Cardan* bids us not to anoynt the place with Nitre, but with milk, that they may fasten the sooner; and withall to pinch the Leech close, that striving for revenge he may open the vein, *lib. 7. de rer. var. c. 28*. What help they were to *Dionysius* the Tyrant of *Heracleota*, we may read in Histories, who representing rather a beast than a man, for he died with a mighty great paunch, had been eaten by the Worms long before, unlesse Horleeches had been applyed to both his sides, and drawn forth daily some quantity of the humours he was charged with. It were too tedious to reckon up all the melancholique and mad people, that have been cured by applying Leeches to the Hemoroids in their fundaments. Yet I may not over-passe the Noble *Richard Cavendish*, (the most learned Unkle by the fathers side of that famous Navigator through the world *Thomas Cavendish*) who was perfectly cured of his Gowt that had held him many years, only by applying Horleeches to the Emroids in *Aug.* every moneth, so that now to the great wonder of all the Court, he walks alone without any help, and being sound and void of all pain, he lives an old man. Also Horleeches set upon the fundament, will so wonderfully pluck back the humours that run from the whole body to the joynts, that they will presently ease the pains like a Charm. This I proved at *Lions* upon an excellent Musitian, one *Rosolus*; who for the great pains he endured, and by continual waking, fell into a burning Feaver, with raving, in the Dog-dayes, at which time *Hippocrates* saith it is dangerous to purge. It is in this case such a remedy, that it is to be preferr'd before all others, for they draw from the whole body without any trouble or losse of a mans forces. *Jac. Aubert. Exercit. 50. progymnasm. Fernel. Abdit. Godfridus a Cenami*, a *Venetian*, a famous man, and my very great friend, for just and lawfull causes, who told me that he saw one who had the joynt Gowt, who lived many years free of all his pains, only by applying Leeches to the part that was in pain. *Math. de Grad. and Savanrola, Jacob Dournet, Apolog. lib. c. 3.* perswade the same remedy. Also *Gilbertus Anglicus* reports, that the Lowlie disease generally is to be cured with the ashes of Horleeches boyled with Storax: For they are not only usefull for men whilest they are alive, but when they are dead and burnt to ashes. *Pliny* reports, *lib. 32. c. 7.* that Horleeches will black ones hair, if they be corrupted in black wine for sixty dayes: Others bid us take one sextarius of Leeches, and let them lie to corrupt in two sextarii of Vinegar, in a leaden vessel for so many dayes, and then to anoynt with them in the Sun. *Soriatius* relates, that this medicament is of so great force, that ulesie they hold Oyl in their mouths that die the hair, it will also black their teeth. *Meges* writes, that live Frogs putrefied in Vinegar, will take off the hair, but the ashes of Leeches anoynted with Vinegar will doe the same.

CHAP. XLII.

Of Water-worms.



IN waters both salt and fresh, great and small Worms will breed of putrefaction, especially in Summer, very like Earth-worms, but they want that knot or chain about their necks: Also they are by far more sharp and lean; oft-times they lie in the sand, and they cast up earth out of their holes, as Earth-worms do: In sweet waters that are standing, and not deep, there is found a kinde of Worms of a full red, that resemble in shape the *Teredo* without feet, but that they have greater heads. Their tail is forked, whereby they stay themselves, till lifting up their heads they may finde a place to fasten the rest of their body, and so they creep upon the mud and stones, and so they move in a brandishing manner crookedly. In Summer, when it is clear weather and hot, they come forth together in great numbers, but if the mud move never so little they presently withdraw themselves. The English call them *Summer-worms*, either because they are seen only in Summer, or they die in Winter. In the *Mediterranean Sea* there is a round Worm found as great as a great Snake, and of the same colour, but it hath neither head nor tayl, as *Weckerus* observes. Sometimes it is twenty foot long. What may be the use or nature of these I have not yet observed. But I hope that others will discover that light that shal shew us both. Yet this is certain, that those Worms serve for baits to catch Fish, especially those small red ones, and Fisher-men diligently seek after them for that purpose. We call them *Water-worms*, because as Earth-worms will not live long in water, so Water-worms put upon dry land soon die, they wanting Air, and these for want of water.

FINIS.

An Index of all the CHAPTERS contained in the
Second Volum.

Book I.

Chap. 1.	O F Bees, their name, description, and differences,	page 889
Chap. 2.	Of the politick, moral, and economical virtues of Bees,	892
Chap. 3.	Of the creation, generation, and propagation of Bees,	897
Chap. 4.	Of the use of Bees,	905
Chap. 5.	Of the name of Honey, the difference and use.	907
Chap. 6.	Of Bee glee, Pissoceros, Bees meat, with the nature and use of them,	915
Chap. 7.	Of Drones and Theeves.	917
Chap. 8.	Of Wasps,	921
Chap. 9.	Of the Hornet and the Tentredo,	927
Chap. 10.	Of Flies,	931
Chap. 11.	Of the differences of Flies,	934
Chap. 12.	Of the use of Flies,	944
Chap. 13.	Of Gnats,	952
Chap. 14.	Of Butterflies,	967
Chap. 15.	Of the Glowworm,	975
Chap. 16.	Of Locusts,	981
Chap. 17.	Of Grasshoppers and Crickets,	989
Chap. 18.	Of Mothes, called Blatte,	997
Chap. 19.	Of the Buprestis or Burncow, and Cantharides,	1000
Chap. 20.	Of the Cantharides or Spanish Fly,	1003
Chap. 21.	Of Beetles,	1005
Chap. 22.	Of the smaller Beetles,	1015
Chap. 23.	Of the Proscarabæus, or oil Beetle, and the water Beetle,	1016
Chap. 24.	Of the Gryllotalpa, Fen Cricket, Mole Cricket, Evechuro or Chyrworm,	1018
Chap. 25.	Of the fire Fly,	1019
Chap. 26.	Of the Water Spider,	1021
Chap. 27.	Of the Earwig,	1023
Chap. 28.	Of the Scorpion, Ant, and Lice winged,	1024
Chap. 29.	Of the Wood-Wig Lowse with wings,	1025

Book II.

Chap. 1.	O F Caterpillers and their differences, and chiefly of Silk-wormes and Silk-spinners,	pag. 1029
Chap. 2.	Of the other smooth Caterpillers,	1032
Chap. 3.	Of Caterpillers rough and hairy,	1034
Chap. 4.	Of the original, generation, aliment and metamorphosis of Caterpillers,	1039
Chap. 5.	Of the quality and use of Caterpillers, and the remedies against hem,	1040
Chap. 6.	Of the Whirlworm,	1042
Chap. 7.	Of the Wine Caterpillar, called Staphylinus,	1044
Chap. 8.	Of the Scolopendra, and Juli,	1045
Chap. 9.	Of Hoglice, or Chistips,	1048
Chap. 10.	Of Land Scorpions,	1049
Chap. 11.	Of the name and differences of Spiders,	1058
Chap. 12.	Of hurtful Spiders, or Phalangia,	1059
Chap. 13.	Of the tame or house Spider,	1065
Chap. 14.	Of certain kinds of Spiders observed by Aubours,	1070
	Dddd d 2	Chap. 15. Of

The Contents of the Chapters.

Chap. 15.	Of the generation, copulation, and use of Spiders,	1072
Chap. 16.	A commendation of Ants, wherein is described their differences, nature, cunning and use,	1074
Chap. 17.	Of the Cicindela, and female Meloe, and of the Hornet and field Chetlep,	1080
Chap. 18.	Of mineral worms with six feet,	1081
Chap. 19.	Of Worms in vegetables with six feet, and first of Worms in Trees,	1082
Chap. 20.	Of Worms in puls, fruit, corn, vines, herbs,	1085
Chap. 21.	Of the use of Worms in Minerals, and Vegetables, and the way to destroy them,	1088
Chap. 22.	Of Worms in living creatures that have six feet, and first of Lice in men,	1090
Chap. 23.	Of Lice in Brutes and Plants,	1094
Chap. 24.	Of Hand-worms and Mites, and worms in living creatures,	1094
Chap. 25.	Of Wiglice,	1096
Chap. 26.	Of Sheep, Tikes, and the like,	1098
Chap. 27.	Of the Moth that devours clothes,	1100
Chap. 28.	Of the flea,	1101
Chap. 29.	Of the Insects wanting feet, and first of the Intestines of the earth,	1103
Chap. 30.	Of Worms in living creatures,	1106
Chap. 31.	Of the description of Worms in the Intestines,	1108
Chap. 32.	Of the original of Worms in the Intestines,	1110
Chap. 33.	Of the signs and cure of Worms out of Gabusinus,	1111
Chap. 34.	Of Worms bred without the Intestines, and first of Eulai, Gentils or Maggots,	1122
Chap. 35.	Of Nits,	1123
Chap. 36.	Of Aurelia and Terebo without feet,	ibid.
Chap. 37.	Of water Insects without feet, and first of Squilla or Shrimp,	1124
Chap. 38.	Of the Locust, Scorpion, Effet, Grasshopper, Hornet, Forked claw, Lizard, Corculum and all water Insects,	Lowse, 1125
Chap. 39.	Of the Flea or Sow, and Scolopendra of the sea,	1127
Chap. 40.	Of water Insects without feet, and first Oripes,	ibid.
Chap. 41.	Of the Horseleech,	1128
Chap. 42.	Of Water Worms,	1130

THE END.

Book II

Chap. 1.	Of the name and difference of Spiders,	1072
Chap. 2.	Of the name and difference of Spiders,	1074
Chap. 3.	Of the name and difference of Spiders,	1080
Chap. 4.	Of the name and difference of Spiders,	1081
Chap. 5.	Of the name and difference of Spiders,	1082
Chap. 6.	Of the name and difference of Spiders,	1085
Chap. 7.	Of the name and difference of Spiders,	1088
Chap. 8.	Of the name and difference of Spiders,	1090
Chap. 9.	Of the name and difference of Spiders,	1094
Chap. 10.	Of the name and difference of Spiders,	1094
Chap. 11.	Of the name and difference of Spiders,	1096
Chap. 12.	Of the name and difference of Spiders,	1098
Chap. 13.	Of the name and difference of Spiders,	1100
Chap. 14.	Of the name and difference of Spiders,	1101
Chap. 15.	Of the name and difference of Spiders,	1103
Chap. 16.	Of the name and difference of Spiders,	1106
Chap. 17.	Of the name and difference of Spiders,	1108
Chap. 18.	Of the name and difference of Spiders,	1110
Chap. 19.	Of the name and difference of Spiders,	1111
Chap. 20.	Of the name and difference of Spiders,	1122
Chap. 21.	Of the name and difference of Spiders,	1123
Chap. 22.	Of the name and difference of Spiders,	ibid.
Chap. 23.	Of the name and difference of Spiders,	1124
Chap. 24.	Of the name and difference of Spiders,	1125
Chap. 25.	Of the name and difference of Spiders,	1127
Chap. 26.	Of the name and difference of Spiders,	ibid.
Chap. 27.	Of the name and difference of Spiders,	1128
Chap. 28.	Of the name and difference of Spiders,	1130

**A Physical Index, containing plentifull Remedies for all
Diseases incident to the Body of Man, drawn from the several
Creatures contained in this Second Volume.**

A.		Cantharis what it is,	1012.
A. Gues,	911.1006.1008.1012.1072.173.	Carbuncle,	906.1017.
	1079.1088.1098.1104.	Canteries,	1004.
	925.996.	Clyster,	912.
	1072.	Cold water drunk,	912.
	911.945.	Chaps,	1017.
	911.	Clefts of hands and feet,	1105.
	1088.	Colick,	912.1098.1107.
	945.	Convulsions,	1012.1023.
	996.	Corrosive,	911.
	1049.	Corns,	1003.
	1012.	Cough,	917.1108.
	1105.	Consumptions,	1049.
	1000.1048.	Cantharides remedies,	1004.1005.
	1109.1110.	Childrens diseases,	1006.1012.1088.
	1048.	Childe-birth,	1088.
		Cochineal,	ibid.
		Cramp,	1049.
B.		Creeping sores,	1088.
B. Arrenesse caused,	980.1080.1104.1108.	Conception hindered,	1107.
	906.945.	Cankers cured,	1088.
	907.	Corallina good against Worms,	1117.
	1072.1073.	Corruption hindered,	1073.
	906.	Chops diseases,	1049.
	1104.		
	912.914.		
	1004.		
	906.		
	1108.		
	945.		
	1073.1088.		
	1004.		
	1104.		
	906.		
	1073.		
	1017.		
914.			
1104.			
912.1000.			
1098.			
1000.1004.			
1109.			
974.975.			
1107.			
1002.			
1105.			
1105.			
1105.			
ibid.			
C.			
C. Achexia,	913.		
	1004.		
	946.		
	1003.1049.		

The Physical Index.

[illegible]

The Physical Index.

Menstrual blood, 1073.
 Mad people cured, 1129.
 Melancholy, 1088.
 Mettenchitis, 1115.
 Matrix to beat, 1088.
 Maggots bred in ulcers cured, 1123.
 Males of the matrix, 1098.

N.

Nails rough cured, 987.1003.
 Nits remedies, 1123.
 Neck swollen, 1000.
 Neckings cure brain Worms, 1107.
 Nerves cut asunder, 1104.1109.
 Nerves contracted, 1104.
 Noli me tangere, 1080.
 Nose bleeding, 1098.
 Numbness, 1012.

O.

Obstructions opened, 911.912.
 Old people, 912.
 Oyl of Ear-worms to make, 1106.
 Ozena, 915.
 Opening remedies, 1048.

P.

Pains cured, 1100.
 Parotides, 996.
 Phalangium bites cured, 1062.1063.1064.
 Pimples red in the face, 1065.
 Palley, 906.
 Pin and Web, 1105.
 Plague cured, 945.
 Poyfont remedy, 1072.1053.
 Privities scabs, 1098.
 Propolis, 916.917.
 Polypus in the nose, 1108.
 Purge, 914.
 Purple colour, 1088.
 Pursueness, 1049.
 Pismires drove the Cynaroi an idle people out of their Country, 1080.

Q.

Quinsey, 912.1049.
 Quartan ague, 1053.
 Quadian, ibid.

R.

Reins hindered, 980.
 Reins, 912.
 Rins Worms, 1108.
 Rig-worms, 917.
 Rins Impostume, 1108.
 Rins, 917.
 Round Worms bred only in the small guts, 1111.
 Ruptures cured, 105.

Scorpions stings, 988.1057.1058.1053.
 Scalopenders bites cured, 1054.1055.1056.
 Sight helpt, 1046.
 Scrofulous tumours, 906.911.
 Skin cleansed, 988.1006.1105.
 Sleep caused, 911.912.
 Sleep caused, 996.1088.
 Sores running, 906.912.1000.
 Sores pestilent, 1017.
 Staphylinus swallowed by a horse cured, 1044.1045.
 Stone, 906.912.980.987.996.1012.1098.
 Spiders eaten, 1104.1048.1053.1105.1106.
 Stomach raw, 1073.
 Stomach Worms, 906.912.
 Spleen, 1108.
 Storms foreboded, 912.1072.
 Squint eyes cure, 945.
 Strangury, ibid.
 Suffocation of the mother, 987.1026.1098.
 Suffusion of the eyes, 1072.1098.
 Stones voided at the fundament, 911.
 Stones bred in most parts of the body, 1107.
 Sweating helped, ibid.
 Sweating caused, 912.
 Swellings, 1017.
 Salamanders antidote, 912.915.945.
 Scabs, 1004.
 Scurf, 1000.1080.
 Secondine, 1025.
 Shingles, 1104.1105.
 Softning things, 1100.1105.
 Short winde, 1104.
 Scorpions stings prevented, 1048.1049.
 Scorpions cure their own stings, 1054.1105.
 St. Bernards Oyl powerfully provokes urine, 1053.
 ibid.

T.

Tarantula, 945.
 Tendons remedy, 915.
 Teeth to make fall out, 1105.
 Teeth breeding, 911.
 Teeth to preserve, 1105.
 Testicles cold helpt, 912.
 Thirst quenched, 911.912.
 Tooth-ache, 915.1072.1073.1088.1104.1049.1105.
 Tonsils swollen, 912.996.
 Thorns to draw out, 917.
 Tumours, 1080.1040.
 Tonsils diseases, 1040.
 Tetters, 1003.1004.1073.1080.
 Terms provoked, 1004.1012.1088.
 Terms to stop, 1100.
 Tympany, 1073.
 Tinkling in the ears, 1049.
 Tertian ague, 1053.

V.

Venery provoked, 988.1004.1080.
 Venery abated, 980.1080.1100.

Ulcers

The Physical Index.

[illegible]

THE END.

96.
98.
99.
100.
101.
102.
103.
104.
105.
106.
107.
108.
109.
110.
111.
112.
113.
114.
115.
116.
117.
118.
119.
120.
121.
122.
123.
124.
125.
126.
127.
128.
129.
130.
131.
132.
133.
134.
135.
136.
137.
138.
139.
140.
141.
142.
143.
144.
145.
146.
147.
148.
149.
150.
151.
152.
153.
154.
155.
156.
157.
158.
159.
160.
161.
162.
163.
164.
165.
166.
167.
168.
169.
170.
171.
172.
173.
174.
175.
176.
177.
178.
179.
180.
181.
182.
183.
184.
185.
186.
187.
188.
189.
190.
191.
192.
193.
194.
195.
196.
197.
198.
199.
200.



